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THE PRINCIPLES OF ECONOMICS AND OTHER PAPERS

THE

PRINCIPLES OF ECONOMICS

A FRAGMENT OF A TREATISE

ON THE

INDUSTRIAL MECHANISM OF SOCIETY

AND OTHER PAPERS

BY THE LATE

W. STANLEY JEVONS, LL.D., M.A., F.R.S.

WITH A PREFACE BY

HENRY HIGGS

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EDITOR'S PREFACE

I

AMONG the economists of all time Jevons unquestionably stands in the first rank. Alert, original, exact, profound, he brought to the study of economic theory a mind trained in the processes of logic and of mathematical analysis, while his powers of observation and co-ordination were quickened by a large acquaintance with the principles and the details of natural science. Exceptionally familiar with the works of the early English and French economists, a pioneer in pure theory, an authoritative writer upon such practical matters as Money and Banking, Currency and Finance, the State in relation to Labour, Methods of Social Reform, the Coal Question, etc., etc., he was one of the few professed economists who have in this country secured respect alike in Parliament, in the City, and in the closet. When his labours were cut short by a sudden and untimely accident[1] he was in the full enjoyment of energy and of leisure to prosecute what he regarded as "the work of his life"—the preparation of a book which he intended to call *The Principles of Economics: A Treatise on the Industrial Mechanism of Society.* Such economists as Cairnes had been unable to read the mathematical *Theory*; and Jevons, like Cournot before him, felt impelled to follow up his mathematical treatise by a volume written in plain language for the general reader. He evidently hoped and believed that his *Principles* would, moreover, break

[1] He was drowned while bathing at Bexhill, 13th August 1882, nineteen days before his forty-seventh birthday.

new ground. He had progressed so far as to draw up a table of contents, to write several chapters and parts of chapters, and to begin the draft of a Preface in these words: "I fear that this work may appear needlessly elaborate and complicated. But the fact is that the attempts hitherto made to resolve the problem of value have failed because they never really meet the intricacies of the subject. We are in almost the same position as astronomers were, in the earliest ages, when they fancied that the sun and moon and planets went round the earth in circles. A few epicycles have been added by one writer or another. But we need a very different analysis." A rough detached note says: "The purpose is to describe the industrial structure and working of society."

The Table of Contents shows what portions of the work were attempted. It may be doubted whether the Fragment now printed contained anything absolutely new at the time it was written; but it says a great deal for the judgment of the author that it is hardly affected by the searching criticisms which have discovered in the last twenty-two years so many imperfections in the traditional reasoning of English economists. Like all the work of Jevons, it is fresh and suggestive, and its point of view is undoubtedly novel. The original contribution of Jevons to pure theory was his examination of the theory of Demand, and its connection with Value through the principle of Final or Marginal Utility. This aspect of Value had been hitherto neglected in comparison with the theory of Supply or Cost of Production, upon which, as a determinant—or rather *the* determinant—of value, Ricardo had almost exclusively based his economic philosophy. In his *Principles of Economics* Jevons now proposed to lay stress upon the Consumption of Wealth, another subject comparatively neglected on its theoretical side in all countries, and especially in England, where few things are more remarkable than the ignorance which still prevails of such work as that of Le Play and his school. We would give a great deal for an essay from the pen of Jevons upon the mono-

graphs of Le Play, or upon the monumental volumes of Mr. Charles Booth. The structure of society had engaged the attention of Jevons very early in his career, as shown by the following jottings in his manuscript :—

"The completion of this work will be to me a time of great satisfaction. It will be in reality the completion of a thirty or thirty-five years' work.

"It was in 1851 that I first began, at the age of sixteen, to study the industrial mechanism of society, purchasing for the purpose some of the . . .

"By the year 1857 . . .

"I had achieved a careful study of the *London Directory*."

Among the papers communicated to me by Mrs. Jevons is the title-page of a work by Jevons, never published, to be called "*Notes and Researches* | *on* | *Social Statistics* | *or* | *the Science of Towns,* | *especially as regards* | *London and Sydney.* | Commenced November 1856." A reference to this will be found in the text (p. 107). There is also an elaborate coloured chart, drawn to scale, entitled "Classification | of | Industrial Occupations. | This diagram shows the | Proportional Magnitude | Relative Position or Connection | and the | Proportional Number of the Sexes | in each branch of the | great Industrial System of Society | (for explanation see Appendix)," and is marked "To front the title page." It is based upon the census returns of 1851. The eleven classes, with their respective sub-classes, are: 1. Domestic Industry: (*a*) Wives and other relatives, all females (mistress of household); (*b*) domestic servants; (*c*) public accommodation (inns, etc.). 2. Food and Medicine: (i.) (*a*) bread, (*b*) flesh meat, (*c*) dairy produce, (*d*) fruit, (*e*) groceries, (*f*) liquors, (*g*) miscellaneous; (ii.) Agriculture—(*a*) males, (*b*) females; (iii.) Medicine. 3. Clothing: (*a*) made clothes, (*b*) cotton, (*c*) wool, (*d*) flax, (*e*) silk, (*f*) washerwomen (subsidiary), (*g*) miscellaneous articles of clothing. 4. Lodging: (i.) House-owners, etc.—(*a*) houses, (*b*) stone and bricks, (*c*) slates and plaster, (*d*) woodwork, (*e*) decoration; (ii.) (*a*) furniture, (*b*) utensils.

5. Refinements: (*a*) paper and stationery, males, females, (*b*) printing (books, etc.), (*c*) engraving, (*d*) music, (*e*) watches, instruments, etc., (*f*) gold, silver, and jewels, (*g*) ornaments, (*h*) amusements, (*i*) tobacco. 6. Conveyance: (i.) horse conveyance —(*a*) carriers, carmen, etc., (*b*) horses, (*c*) vehicles, (*d*) harness, (*e*) roads; (ii.) railways; (iii.) canals; (iv.) marine conveyance— (*a*) sailors, etc., (*b*) ships, (*c*) docks; (v.) miscellaneous; (vi.) Post-Office. 7. Materials and Tools: (*a*) fuel (coal and gas), (*b*) iron, (*c*) pure metals, (*d*) mixed metals, (*e*) tools and machines, (*f*) chemicals, (*g*) water, (*h*) animal substances, (*i*) oils, etc., (*k*) vegetables. 8. Occupations General and Indefinite. 9. Intellectual: (*a*) religion, (*b*) education, (*c*) science. 10. Government: (*a*) law, (*b*) local, (*c*) army, navy, (*d*) central administration. 11. Unproductive Population: males, females, with sub-classes, (*a*) children and infirm persons, (*b*) independent, (*c*) criminal and paupers. A small square shows the "unclassified population," not fitted in to either of the above groups. The total area represents the mass of the total population (20,959,477) of Great Britain in 1851. Jevons was not entirely satisfied with this youthful effort (see p. 115). But it is probable, from the care with which he executed and preserved the chart, that he proposed to utilise some of the good ideas which it undoubtedly contains. It throws an interesting light upon the workings of his mind on the "industrial structure of society."

A few words are needed as to the great delay in the appearance of this long-expected volume. The Fragment was first prepared for the press by the loving care of Professor Foxwell and Mrs. Jevons, the former of whom spent much time in carefully examining a very large collection of notes prepared for the unwritten chapters, before reluctantly concluding that the present Fragment was all that could be published. The printed slips were entrusted to the present editor some years ago. To his deep regret he has been unable to persuade himself at an earlier date that the advantages of immediate publication were greater than the advantages of completing the

references to the works consulted by Jevons in his very wide reading. The labour of verifying and completing references, when they are given, is not very great. But these indications are not always present. And in the pressure of other occupations the editor has been obliged to trust largely to opportunity and to sustained, if not systematic, vigilance in the hope of coming across the various sources of Jevons's material. As Mr. Cannan observes in his recent edition of *The Wealth of Nations*: "To discover a reference has often taken hours of labour; to fail to discover one has often taken days."

At the time of his death Jevons was contemplating[1] the publication of some of his shorter writings in a collected form. The opportunity is taken to reprint some of these scattered papers, worthy of preservation in this form, but not now to be obtained without great difficulty. Of these the essay on Cantillon has largely contributed to the tardiness in the appearance of this volume, as the editor has not entirely abandoned the hope of completing the work of Jevons in this respect, and was anxious to include in this edition the results of investigations which have often seemed to promise, but have not yet attained, complete success. He can only express his sincere thanks to the publishers and to all concerned for their uncomplaining forbearance, and his conviction that the lapse of time has not robbed the volume of any of its interest. It is not proposed to offer in this place any critical appreciation of the Fragment. It is, in its entirety, the work of Jevons, with no editorial additions beyond an occasional word or two in square brackets, and bibliographical notes. A few remarks are, however, offered upon the separate papers which follow.

II

The essay on "Richard Cantillon and the Nationality of Political Economy" (pp. 155-183) was published in the *Con-*

[1] See the *Economist*, 19th August 1882.

temporary Review for January 1881. It would be impossible to mention a more beautiful example of literary research in the history of economic theory, in which it now occupies an imperishable position. Many ancient economists "have died, and worms have eaten them," and from time to time pious and diligent students have revived their memories. We think at once of Wolowski's "discovery" of Oresme, of Funck-Brentano's edition of Montchrétien, of Dr. Bauer's essay on Barbon, of Professor Seligman's remarkable articles on "Some Neglected British Economists"[1]; but all these and many others pale before the interest attaching to Cantillon's *Essai*, which is not only "much ahead of its time,"[2] but in spirit, method, and completeness may fairly be called the first systematic treatise on economics, and, above all, is known to have profoundly influenced the movement of economic thought. Cantillon's work is no literary curiosity, unheeded at the moment, and dying without fruit. Abundant evidence exists to show that, far more than Jevons expected, it was widely known and highly esteemed by the greatest economists of the eighteenth century, and that it played a decisive part in the production of the Marquis of Mirabeau's *L'Ami des Hommes*, 1756, which, in turn, gave rise to the association of Mirabeau and Quesnay, from which sprung the school of the physiocrats. Gournay, Turgot, Mably, Morellet, Steuart, Graumann, are a few of the writers, beyond those mentioned by Jevons, who acknowledge their indebtedness to Cantillon; and it is significant and remarkable that in 1881 Cantillon should so far have fallen into forgetfulness that the opportunity offered itself to Jevons to write for the first time a connected account of his life and work which, in spite of the allusions of previous authors, entitles Jevons to rank as his real "discoverer." Such a *trouvaille* may now be considered unique of its kind. It is hardly possible that any economist of the same importance can have escaped the vigilance of present-day search, that his

[1] *Economic Journal*, vol. xiii. 1903.

[2] Prof. Marshall, *Principles of Economics*, 1st ed. 1890, vol. i. p. 53, n.

work should be so scarce and its publication so wrapped in mystery, his biography so romantic, and pieced together from such curious evidence.

The *Letters and Journals*[1] of Jevons show that, shortly before his death, he examined at Somerset House a copy of Cantillon's will. Now, this will refers to a number of lawsuits in which Cantillon was engaged, and it can hardly be doubted that Jevons would have followed up the clue thus afforded to some further information as to Cantillon's career. The present editor succeeded in finding a large number of Chancery bills and other papers relating to these lawsuits in the Public Record Office. As legal proceedings were carried on both in London and in Paris, he also examined the French records, and, with the aid of documents in the National Archives and National Library in Paris, was able to supplement the essay of Jevons by an article in the *Economic Journal* for June 1891, to which the student is referred for further details. The authority for much of the information contained in the *Biographie Universelle,* to which we owe the best early account of Cantillon's life, has not yet been discovered. An examination of many hundreds of volumes of French memoirs and diaries of the time has not yielded a single reference to the name of Cantillon.

It must suffice here to say that, upon the information before him, the judgment and instinct of Jevons were wonderfully true. There is no doubt that the *Essai* was the work of Richard Cantillon. He describes himself, in a sworn statement, as "a naturall born subject of the Crown of Great Britain." His treatise was written in English, and appears to have been handed about among his acquaintances in manuscript. Mr. Cannan has pointed out that extracts from it appear in Postlethwayt's *Universal Dictionary of Trade and Commerce* as early as 1751, or four years before the appearance of the French edition. This French edition was printed from a manuscript which Cantillon had himself prepared as a French translation

[1] 1886, p. 425.

for an intimate French friend. The manuscript came into the possession of the elder Mirabeau by, as he says, *un espèce de vol.* According to his own account, he kept it by him for sixteen years, and desired to publish it. But as it did not contain the supplement (the translation of which Cantillon had postponed), and as it seemed to Mirabeau to need some "touching up" in style, and some slight pruning, rearrangement, and development, he proposed to edit it without revealing the real author, as he was assured that Cantillon's family would take offence at any mention of his name. Before he could execute this intention he was compelled to give up the manuscript to the rightful owner, by whom it was then printed. Mirabeau's proposed work, much enlarged, became his famous *L'Ami des Hommes.*

Philip Cantillon's *Analysis of Trade*, 1759, was, no doubt, based upon—though it did not faithfully follow—the original English manuscript. Philip was a merchant of London, and a cousin of Richard. There are frequent references to him in the Record Office papers. He married, 14th July 1733, Rebecca, eldest daughter of Wm. Newland, of Gatton, co. Surrey, Esquire, and is described in the marriage settlement as "of the City of London, merchant, eldest son and heir-apparent of James Cantillon, of the City of Limerick, Esquire." He was a director of the Royal Exchange Assurance, carried on a business as banker and broker, and was made bankrupt in 1742. He intervened on Richard's death in 1734, in favour of the widow and her daughter, and obtained numerous papers, some of which he probably kept. To this extent the reader may modify the conclusions arrived at on p. 183.

The *Essai* exists in four forms : (i.) the edition of 1755 ; (ii.) an edition of 1756, of 427 pages ; (iii.) the edition in Hume's *Discours Politiques* ; and (iv.) a reprint virtually in facsimile of the 1755 edition by Harvard University (London and New York : Macmillan, 1892), with a prefatory note by the present editor, whose further essay on Cantillon's work appeared in the Harvard *Quarterly Journal of Economics* for July 1892. A

young French author, M. Robert Legrand, has written a doctor's thesis under the title of *Richard Cantillon* (Paris: Giard et Brière, 1900, 168 pp., 8vo), and every writer on the history of economic literature now places Cantillon in his proper niche. But none of these writers adds to our knowledge of the facts of his life.

III

The *Future of Political Economy* (pp. 187-206), a lecture delivered by Jevons at University College, London, in 1876, appeared as an article in the *Fortnightly Review* for November 1876. The proceedings at the dinner of the Political Economy Club, on the 31st May 1876, to which Jevons alludes, were reported and printed *in extenso* for private circulation among the members, the only occasion on which such a step has been taken in the history of the Club. Jevons attended as a visitor of the Club on the 2nd July 1869 and on the 1st July 1874; was elected an honorary member on the 6th June 1873, while Professor at the Owens College, Manchester, and opened the discussion on five occasions. The meeting of 1876 was in many respects exceptional. It was attended by thirty-nine members—the whole strength of the Club—and by sixty-three guests. At ordinary gatherings the members and guests are rarely too numerous to allow every one present to offer some short contribution to the conversation. But at the Adam Smith dinner this was manifestly impossible, and the article now reprinted fortunately provides us with a more leisurely version of what Jevons might have said on the occasion. Both Jevons and Lowe were frequent attendants. They sometimes sat together, and, no doubt, took the opportunity to exchange views upon such questions of taxation as those to which reference is made hereafter.

IV

The proposal for a *Match Tax* (pp. 220-248) was brought forward by Lowe in 1871, and was estimated to yield £550,000

—an estimate criticised by Jevons on p. 227. The proposal aroused a storm of opposition, and was promptly withdrawn. But the pamphlet in which Jevons supported it is of abiding value as a discussion of the general principles of taxation, and as an example of the method of attacking a particular problem of this kind. Its inclusion in this volume is doubly appropriate, since it supplies, in part, some of the sections on Finance which are wanting in the Fragment of the *Principles*. The project, based upon American experience, was denounced as revolutionary and un-English. The travelling public is now familiar with the operation of match taxes, or Government monopolies of matches, on the Continent, and the experience is not likely to predispose it in favour of a Match Tax in this country. But political psychology apart (and a reference to this important factor is the last word of this pamphlet), Jevons provides an admirable "brief" for any future advocate of this project, and what is more important, an excellent lesson to the student of finance. The circumstances which led to his compilation of the Family Budgets, printed in the appendix to this pamphlet, are alluded to on a later page (xv).

V

The paper *On the Pressure of Taxation* (pp. 253-264), now first printed, appears to have been written at the request of Lowe, and is of especial interest in its bearing upon the abolition of the so-called "shilling duty" on corn. The sweeping measure of Peel, in 1846 (9 and 10 Vict. c. 22), proposed that on and from 1st February 1849, when the great changes in the Corn Laws took effect, a "nominal" duty of 1s. per quarter should be paid upon imported corn. This was changed to 3d. per cwt. in 1864 (27 and 28 Vict. c. 18), as corn was then imported by weight, and not by measure, and was repealed by Lowe in 1869, when he had his first surplus to dispose of. It was re-imposed in 1902, realised £2,346,796, and was again repealed in 1903.

The preparation of a Budget is necessarily a secret operation. Most of the semi-official and confidential memoranda upon which it is constructed are swept away after the event, like the scaffolding of a building which has been completed. Such memoranda escape the formal registration and record of official papers which are carefully preserved, and we shall never again see a Minister who gives up the seals of office take away the papers of his Department and subsequently sell them to the Government! But there are, at any rate, at the Treasury no official documents which reveal the motives by which Lowe was actuated, or the sources of his inspiration. Mrs. Jevons writes as follows: "With regard to any correspondence of the Chancellor of the Exchequer (Mr. Lowe) with my husband about the removal of the shilling duty on corn, I do not remember that there was any. Mr. Lowe asked my husband if he could advise him as to which classes of the population—rich, middle, or poor—were most heavily taxed; and after as thorough an inquiry as he was able to make, Mr. Jevons arrived at the conclusion that the taxes then fell a little the most heavily on the poorest classes. When he sent this information to Mr. Lowe in answer to his request, he also made the suggestion that if Mr. Lowe should find himself able to remove the shilling duty from foreign corn in his next Budget, it would, he believed, greatly help to remove the slight extra weight of taxation which he had found fell upon the poor. The duty was taken off in the next Budget, as you know. I will look and see if I can possibly find any reply from Mr. Lowe to my husband's letter; but I am perfectly certain of what I have told you, that Mr. Jevons made the suggestion himself to Mr. Lowe in the first place. I remember it so well though it is so many years ago now."

It can hardly be questioned that Jevons was Lowe's principal unofficial adviser in this matter. His paper is dated 13th March 1869. On the 8th April 1869 Lowe introduced his Budget into the House of Commons. He stated that "as

the additional 2d. of income tax was imposed as the means of carrying on the Abyssinian War, the payers of that tax should be the first to feel the relief consequent upon that war being terminated." He proposed, therefore, to take a penny off the income tax, and continued in these words: "The next item of taxation that we should wish to take off is one that has a very curious history, seeing it was put on at first on the ground that it was no tax at all, and yet it yields a revenue of £900,000. The Committee will doubtless perceive that I must be alluding to corn. Sir Robert Peel seems curiously to have thought that a tax of 1s. per quarter on corn, or of 3d. per cwt., as it is now paid by weight instead of by measure, was really no tax at all. For so great a financier, the language that he holds upon this matter is very remarkable. In his speech in 1846, he says:—

> I propose, therefore, that one article of grain which, I believe, may be applied to the fattening of cattle, shall henceforth be imported duty-free; I mean maize. I propose that the duty on maize shall be merely nominal (3 Hansard, lxxxiii. 256).

That is to say, he imposed a duty of 1s. per quarter upon it. Now, that nominal duty on maize amounts to 3 per cent at least on the value of the article, and, of course, it presses in that degree upon the farmer. That this duty is something more than a mere registration duty is evident, I think, from two considerations. The first consideration is that it is perfectly easy to register the arrival of corn without it; in fact, it is no more difficult to register the arrival of corn without levying a duty of 1s. per quarter upon it than it is to roast a pig without burning down a house. Again, it cannot be called a mere registration duty, for you have an enormous number of collateral duties on articles like tapioca, arrowroot, sago, flour, meal, and so on, all kept upon your tariff for the purpose of acting as outworks and bulwarks to protect this particular duty. You may put a duty on these articles for the protection of the Revenue; but why should you do it for mere purposes

of registration, which can easily be effected without it? It was clearly the intention of its founder that it should operate only as a register; but it really is, and it has now come to be regarded as a source of Revenue. And what sort of a source of Revenue is it? It is impossible to imagine any tax which combines more of the qualities that make a tax odious—that is, it is a duty on an article that is produced in England with no countervailing excise duty upon it; it is therefore effectual as a protective duty—that is to say, it not merely raises the price of the portion of the article that pays it, but also raises the price of the portion of the article that does not pay it. It, therefore, inflicts on the subject a burden much more considerable than the benefit it confers on the revenue. If we want to get at the real evils of the tax, let us imagine ourselves applying to it the same rules as we applied to all other protective taxes, and put a countervailing excise duty on the home-grown article. Just fancy the exciseman let loose upon the barns and the stores of the farmer and the corn-dealers, collecting a tax of 3d. per cwt. on their corn all over the country. What a sensation it would create! The case is not altered by the fact that the Government raises the tax all over the country; and as the price of wheat is raised by the tax, the Government should apply a remedy instead of taxing the consumer, according to the exploded system, for the benefit of the producer. But the case of this tax is still worse than that. The consumption of wheat in this country is about 22,000,000 quarters annually; the imports are about 8,000,000 quarters, and the home growth about 14,000,000 quarters. I do not mean to say that the price of the whole 14,000,000 quarters grown at home can be sensibly raised by this tax; but I feel no doubt that the price of a considerable portion of it is, and no one can exactly say how much. Then consider how hard it is. Why, it is a kind of poll-tax, of which we hear so much in olden times; but it is graduated in a peculiar fashion, because it falls heaviest on the poorest of your people. It has been computed by persons who have

inquired into the subject that, if a man and his family ate nothing but bread—which is the case of the very poor—this duty would be equal to something like an income tax of 1½ per cent upon the whole means of the family. But if the man rises in his scale of diet, and eats meat, eggs, butter, and the like, he then lives on articles that are duty free, and therefore this tax presses with its greatest severity on the poor—that severity increasing in the ratio of their very poverty. Again, it is a tax on a raw material in its very rawest state, and this 1s. a quarter, or whatever it is, has to bear the profit of the millers, the retailers, and all the different persons through whose hands the corn passes before it reaches the poor man in the form of a loaf. In fact, in every way it violates all the principles of political economy, and the only thing that can be said for it is that it is a very little tax, though it yields a considerable sum of money to the Exchequer. If, however, the argument that a tax being small it can therefore do no harm is to prevail, then, I say, we have found the philosopher's stone of finance; because, whatever may be the difficulty of putting on a good tax, nothing will be so easy as putting on a little tax or a number of little taxes. Thus, if amount is to be looked at, and not principle, you may have a system of taxation which violates every rule to which every tax should be subject. The object is to find a good tax. The proportion of this tax is not large, but the sum raised is large. Although in the case of a small duty of this kind we cannot trace its exact incidence, or measure the exact amount of the mischief it does, surely there is such a thing as faith in politics as well as in religion; and if we cannot, at this time of day, trust enough to the doctrines of political economy and Free Trade to believe that when you raise nearly £1,000,000 sterling from the very poorest of your people you do an immense amount of mischief, what is the use of abstract science or speculation at all? If we can take nothing on the strength of abstract reasoning, and everything must rest upon statistics, which it is impossible to obtain in such cases, then we may as well burn

our books on political economy, and economic science is altogether useless. But if political economy be true these mischievous effects are certainly produced, even though we may not be able to trace them. But I hope we may yet do some good in this matter. Then there is another point that also appears to me to be of the greatest importance, and that is the amount of trade that might exist in this article if it were not for the duty. I have called for Returns on this subject, and, with the permission of the committee, I will read them, to show how little of an exporting country England is. I hold in my hand a Return of the exportation of foreign and colonial corn and grain, and of course the thing derives more weight when we consider that England, with her enormous trade, is fitted by her splendid geographical position between America on the one hand, and the corn-growing countries of the Baltic, Russia, and Poland on the other, to become more and more the commercial *entrepôt* of the world for these and other commodities. Well, this is the Return for the years 1864, 1865, 1866, 1867, and 1868. The corn exported from the warehouse, or after payment of the duty, was in 1864, 21,455 quarters; in 1865 it was 10,851 quarters; in 1866, 17,648 quarters; in 1867, 65,453 quarters; and in 1868, 83,086 quarters. And that is all that England exports of an article for the trade in which her geographical position, as I have said, fits her to be the *entrepôt* of Europe. There were also in the year 1864 under transhipment 54,164 quarters of foreign and colonial corn and grain; in 1865, 9239 quarters; in 1866, 49,071 quarters; in 1867, 169,467 quarters; and in 1868, 154,902 quarters. Observe how much larger the quantities under transhipment are than the quantities exported from the warehouse—plainly showing the evil effect of the duty in preventing the establishment of a great corn depôt in this country. I have here another table, which I wish to read, giving the average importation of corn in the seven years from 1861 to 1867. In those years there were imported 28,000,000 cwts. of wheat, of the value of £16,000,000 sterling;

on an average of those years, at the price of 11s. 5d. per cwt., and, taking the duty at 3d. per cwt., the tax on that wheat must be estimated at about 2 per cent of its value. Of flour, 3,800,000 cwts. were imported, which sold at the rate of 14s. 11d. per cwt., making, at 4½d. per cwt., a tax of about the same amount. Of barley, 6,500,000 cwts. were imported, which sold at 7s. 8d. per cwt., making a tax of 3 per cent. Of oats, 6,800,000 cwts., which sold at 7s. 8d. per cwt., making also a tax of 3 per cent. Thus it appears that during the whole of this time very considerable sums have been levied by means of a tax which was in itself small in amount. I do not wish, however, to labour this subject further, and nothing but its importance to the poorest and most helpless class of the community could justify me in saying so much as I have done. In doing what we propose I am satisfied we shall be doing that which will greatly tend to their benefit, and be laying the foundation of a great *entrepôt* trade, which will not only be of enormous advantage to the mercantile classes, but which will have the equally desirable result of creating that abundance to which the existence of an *entrepôt* so largely contributes by circulating traffic and sensibly lowering prices" (Hansard, 3rd. series, vol. cxcv. pp. 386-390).

The proposal met with general acceptance. Mr. Neville-Grenville, as one who had supported Peel in the imposition of a shilling duty, which he believed then, and believed still, to be a merely nominal one, said, that "if it was of the slightest disadvantage to any portion of the community, and especially if it was found to press upon the poorest class, he, as a county member, representing a large agricultural constituency, was ready to vote for its removal." Mr. Rathbone expressed the thanks of his constituents. He said "a strong deputation had waited on the Chancellor of the Exchequer this year to urge the removal of the duty. . . . It had often been a matter of close calculation whether an order received in Liverpool could be executed, as it depended on whether the parties could find

wheat on board ship which could be transferred to another ship without incurring the shilling duty. It was not the mere amount of the duty that told, but the increased difficulty of the working." Mr. Assheton Cross did not believe "that the shilling duty upon corn had the effect which the Chancellor of the Exchequer would have the House to suppose, or that it had increased the price of wheat throughout the country; still, he rejoiced that even the suspicion of a tax on the food of the poor man should be taken away." Mr. Grieve felt gratified to the Chancellor of the Exchequer "for proposing to sweep away the last rag of Protection." Mr. Macfie "rose to congratulate the country that there was so much public spirit and so little party spirit in the House of Commons. The country would learn with delight that every allusion to the abolition of the corn duty had been received with applause by the opposite side of the House."

The debate was resumed on the 12th April. Colonel Barttelot said: "He had been down in the country, and he found that the opinions generally expressed by the farmers with regard to the repeal of this duty were not unfavourable. They did not believe it would benefit the poor; but they were glad it was to be removed, for it had been constantly thrown in their teeth that they were in the enjoyment of a remnant of Protection." A critical note was sounded by Mr. Corrance, who fastened upon Lowe's appeal to authority. "It was," he said, "to the right honourable gentleman that Mr. Mill addressed these words in my hearing in the House: 'In my right hon. friend's mind political economy appears to stand for a set of practical maxims. To him it is not a science, it is not an exposition, not a theory of the manner in which causes produce effects; it is a set of practical rules, and these practical rules are indefeasible. . . . So far from being a set of maxims and rules to be applied without regard to times, places, and circumstances, the function of political economy is to find the rules which ought to govern any circumstances with which we have

to deal—circumstances which are never the same in any two cases. . . . Political economy has a great many enemies, but its worst enemies are some of its friends.'"

The resolution abolishing the duty from the 1st June 1869 was passed the same night (12th April) without a division. That the subject was "in the air" is shown by Gladstone's letter of the 9th January 1869 to Lowe, which Mr. Morley has described as his "financial legacy."[1] "The following," he writes, "are subjects which I was not able to take in hand:—1. Abolition of the remaining duty upon corn; an exceeding strong case." The reader is now in a position to judge what part was played by Jevons in the matter. It is hardly necessary to add that the "appeal to authority" always found in him a rebellious spirit who "would not make his judgment blind." His habit of facing things as they are led him with a sure instinct to make some tentative efforts at constructing Family Budgets. Had he but lived it might have been borne in upon him more and more that in this direction are to be found the roots of many economic difficulties. It is sad to think that we are not much further advanced in our knowledge of such statistics than when he groped for them in 1869.

The tax on persons keeping post-horses, coupled by Jevons (p. 262) with the corn duty as suitable for repeal, was like that duty abolished forthwith (32 & 33 Vict. c. 14, s. 17).

HENRY HIGGS.

[1] Morley, *Life of Gladstone*, 1903, ii. 650.

March 1905.

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CHAPTER III

Utility

Senior on Utility and Value

An excellent way to begin a treatise on economics is to notice and analyse the manner in which Senior treats the subject in his work on Political Economy.[1] It would be difficult, indeed, to find anything more logical and accurate than the few first pages of this excellent introduction to the science. As we shall afterwards see, Senior may not have followed his own ideas to their ultimate result; but, so far as they go, they form the best exposition of the basis of economics.

After defining the science as that which treats of the Nature, the Production, and the Distribution of Wealth, he very properly remarks that our first business is to explain the meaning in which we use the word Wealth. A definition must not consist of undefined words. Either by verbal or by physical means we must be able to give reality to our statements. Senior proceeds, accordingly, to give the following unmistakable definition of wealth:—"Under that term," he says, "we comprehend all those things, and those things only, which are transferable, are limited in supply, and are directly or indirectly productive of pleasure or preventive of pain." This is a formula which demands and will bear much examination.

We learn that an object is marked out by three qualities or circumstances—(1) transferability; (2) limitation in supply; and

[1] *Encyclopædia Metropolitana*, 1836. Separately printed 1850, cr. 8vo.

(3) the power of directly or indirectly producing pleasure or preventing pain. For the third qualification we may indeed substitute a single word, *usefulness* or *utility*, under which we may, following Senior, sum up all the qualities which enable a thing to give pleasure or prevent pain. The first and most elementary requisite of wealth is that it shall serve man in some way or other. All that is not useful to us must be indifferent; nobody would take any pains to procure or to exchange a useless article. But great care is requisite in forming our notion of what utility means. Most persons confuse the utility with the physical qualities which are merely the basis or requisite condition of utility. The utility of gold, for instance, cannot be said to consist in its beautiful yellow colour, its ductility, freedom from corrosion, and high specific gravity. If these qualities constituted utility, then gold would be useful even to the drowning traveller whose pockets are loaded with coin. The water of the river in which he drowns would, moreover, be useful, because its qualities remain the same as if it served the population of a town for drinking and washing purposes. As Senior briefly remarks: "Utility denotes no intrinsic quality in the things which we call useful; it merely expresses their relations to the pains and pleasures of mankind."

This result comes out still more plainly when we analyse the other conditions of wealth—namely, transferability and limitation in supply. By the former term we mean, according to Senior, to express that all or some portion of the power of giving pleasure or preventing pain is capable of being transferred, either absolutely or for a time. We can hand to another person a dish of strawberries, or a warm rug, and under suitable circumstances it is probable that these and great multitudes of other things will be as useful to the transferee as to the transferor. But a parent cannot transfer to a stranger the pleasure which he derives from his child. The book-collector who has just found a long-sought rare edition cannot transfer to the unbookish the intense pleasure which the possession gives.

Similarly an old family portrait may be no more than a bit of old blackened canvas to the world in general; to the descendant of the person portrayed it is a priceless relic. Not a few things are suited to individual needs; a pair of spectacles suited to peculiar eyes of unequal vision would be useless to all other persons. So an invalid's chair is serviceable but to the invalid.

It is matter of regret, however, that Senior did not analyse his idea of transferableness more fully, so as to discover that it is, after all, in most cases a question of degree. There are comparatively few things which, though useful to one person, are absolutely useless to another. As a general rule transferableness is a question of degree and circumstance. An old family portrait may be more interesting and useful to the family than to other people; but if its painter is of repute and skill, it may, nevertheless, be valued by other owners. A rare edition may be almost priceless for the book-collector who wants it to complete his series, but it may be desired by other collectors with less warmth. The question, of course, is not one of mere physical transferability. There are some things, such as land, which cannot be handed about, but can only be transferred in legal possession. Other things, for instance a beautiful voice, cannot be received or parted with, but the enjoyment of singing may be communicated through the air. The whole question is whether something given to another carries with it the utility which it possessed for the giver; the answer is that this may or may not be the case, and in any degree.

It will be obvious, after a moment's thought, that if a thing were as useful to the transferor as to the transferee there could be no advantage in barter or exchange. There must be some difference in the needs of John and Thomas when John heartily desires Thomas's possession, and readily gives his own in return. Both articles exchanged gain in utility by the exchange; hence if handed back there would be loss of utility. Every free act of exchange must imply increase of utility; hence not only must articles, as a general rule, retain their former utility, but

acquire more utility in the hands of their new possessor. The theory of exchange will indeed require careful treatment, and will be found to be by no means simple.

Gain resulting from Exchange

Although from the earliest stages of civilisation men have persisted in trafficking, hardly yet has it been clearly ascertained why they do so. In former days people supposed with Aristotle and Cicero that neither side gains by an act of exchange. Luther insisted that one side could gain only by robbing the other.[1] In later times even economists were not much more clear about the matter. Forbonnais imagined that one party to an exchange could not gain unless the other lost. Condillac, as quoted by Say,[2] held that those who exchange only equal values cannot make any gain. Say himself, though correctly pointing out that exchanges must be of equal values, does not afford any clear explanation of the paradox.

The whole difficulty, however, has arisen from confusion between the benefits to the trader and those to the consumer. If a trader sells at the same price as he buys he gets no profit. Thus the whole business of a merchant consists in buying cheap and selling dear. Not uncommonly one merchant gains at the cost of another, which must be the case when any mistake is made about the market price. But traders, after all, exist only in order that consumers may acquire what they want. The final end of the manufacturing and commercial processes is consumption, and it is with utilities, not values, that the consumer has to deal. We must recede to utilities in order to comprehend the matter correctly. The price at which a thing is bought is no necessary indication of its utility. Half an ounce of quinine may save a person's life, and, however rich he may

[1] Macleod, *Principles of Economical Philosophy*, 1875, vol. ii. p. 234.

[2] *Traité d'Économie Politique*, 2nd ed. 1814, vol. i. pp. 15, 20, quoting *Le Commerce et le Gouvernement*, 1776, 1e partie, chap. vi.

be, he will not, in ordinary circumstances, pay more than [a few shillings] for it. But the benefit is immeasurably great. A book-collector, meeting with a rare and long-sought edition, may pay a price decidedly beneficial to the bookseller and yet may esteem himself fortunate. Its utility or interest for him may be so great that he would have paid far more if requisite. Now, what happens palpably in these cases happens also in some degree in every ordinary case of exchange.

A true idea of the nature of exchange may be obtained by starting from the remark of Melon, who defined commerce as *the exchange of the superfluous for the necessary.*[1] If we modify the remark and say that it is the exchange of the *comparatively* superfluous for the *comparatively* necessary, the truth is exactly hit. That is comparatively superfluous which is less needed than the comparatively necessary, so that there is a gain of utility in the exchange. It might conceivably happen that a person might possess something completely superfluous which possesses no utility at all; for instance, a pair of spectacles unsuited to his vision, or a pair of boots which were altogether a misfit. Xenophon remarks that a flute is property to a man who can play on it, but to one who is wholly unskilled in its use it is no more property than useless stones, unless indeed he sell it.[2] Here are clearly expressed the elementary ideas of value and exchange.

As a general rule, however, the things we give in exchange have a certain degree of utility, yet those we receive in return have a higher utility. When Americans send bacon to England

[1] Say (*Traité*, vol. i. p. 13) attributes this definition to Genovesi, but I find it precisely given in p. 8 of the remarkable *Essai Politique sur le Commerce* of Melon in these words: "De tout ce que nous venons de dire, suit facilement la définition du Commerce. Le Commerce est l'échange du superflu pour le nécessaire." See Daire, *Économistes-Financiers*, 2nd ed. 1851, p. 667. As Genovesi's earliest economic work was printed in 1750, Melon, whose essay was first published in 1734, could not have derived the idea from Genovesi. [In the Preface to his *Lezioni*, 1765, Genovesi quotes Melon.]

[2] Ruskin's edition of the *Economist of Xenophon*. *Bibliotheca Pastorum*, I. p. 4, 1876.

in exchange for tea and sugar, it is not because all Americans are absolutely saturated with bacon or indifferent to it, but because they are less saturated with tea and sugar. There is to them utility in the bacon given, but more utility in the tea and sugar received. On the other hand, to the English who buy the bacon it possesses more utility than the tea, sugar, or other articles with which they pay for it, useful though these may nevertheless be. It is all a matter of quantity and degree.

In the simpler acts of barter, out of which the sales of commerce originate, the whole thing is a question of direct estimation of utility. When a traveller in a savage country gives his pocket-knife to the natives to obtain a supply of food, there is little question of market prices. He can do without the knife, and he cannot do without the food. When two persons are brought into correspondence through the *Exchange and Mart*, or some similar medium of advertisement, and make an exchange of superfluous articles, there is the like direct comparison of utilities. Julia is tired of her concertina, but wants to learn the violin. If it should happen that Cecilia or any other person had a superfluous violin and wanted a concertina, direct barter would be beneficial to both parties, even if little regard be paid to the customary prices of such articles.

It is with the direct personal estimates of utility that the economist starts. He is not called upon to explain why one thing is wanted and another is not. This is the kind of fact with which his investigation begins.

The Theory of Want

Utility is plainly the subject matter of economics from beginning to end. It is the alpha and omega of the science, as light is of optics or sound of acoustics. The real basis of the science must then be an investigation of the circumstances in which utility arises. This amounts to a consideration of human

wants. A thing is useful to us when we want it, and only when we want it. Want is the state of a person who has *waned* or is *wan* from the absence of food; but though the etymology of the word is founded on that most imperious want, the want of food, we have in a civilised state a vast series of less pressing wants.

It is very remarkable that, with few exceptions, English economists have entirely omitted to notice the groundwork of their own science. This is not, however, the case with the French economists, who, almost from the birth of political economy, have placed a chapter on "Besoins" at the beginning of their treatises. Le Trosne's remarkable treatise, *De l'Intérêt Social*, was published in 1777, the year after *The Wealth of Nations*. It is altogether a most scientific work, anticipating many ideas only recently recognised. Now, in the first chapter, treating of value and its different causes, Le Trosne[1] begins with a section upon "Besoins; Moyens de les remplir." Man, he says, is surrounded with wants which are renewed every day; some of them are so imperious and indispensable that he is forced to satisfy them under pain of suffering and death; others are less urgent, although very necessary; there remain some which are matters merely of convenience and enjoyment, so that he only thinks of satisfying them when he is at rest concerning the previous ones.

Condillac has equally recognised that the values of things really depend, in a somewhat complicated way, upon the need we have of them, and in the first chapter of his work, *Le Commerce et le Gouvernement*, treats of wants. We have, he holds, two sorts of wants: the one sort resulting from our conformation; we are so constructed as to be unable to live without aliment. The other wants are the consequences of our habits. We could possibly dispense with certain things which, nevertheless, have become necessary by custom, or even as indispensable as if they were due to our original conformation. He calls all such wants

[1] *De l'Ordre Social*, 1777, p. 493; Guillaumin's Collection, II. p. 887.

natural, while *factitious* wants are those which are not essential to the social state, and without which, consequently, civil society can exist.[1]

It might be possible to trace similar ideas descending through the whole line of French economists. Certainly we find them very clearly developed in some of the later writers. Bastiat is rather diffuse and rhetorical in his treatment of the matter, but about the clearness of his ideas there is no doubt. "*Wants, efforts, satisfactions*—this is the circle of Political Economy," he says. And at the beginning of the chapter he gives a rude enumeration of the wants of man as follows:—"Respiration, food, clothing, lodging, preservation or re-establishment of health, locomotion, security, instruction, diversion, sense of the beautiful."[2]

In Courcelle-Seneuil's important work we also find an interesting section on wants placed as early as possible,[3] and Joseph Garnier starts also from the same point.[4]

Among English economists I know but two or three who have seemed to be acquainted with the beginning of the economic alphabet. Senior, indeed, gives no special chapter or section on the subject, but a great deal of meaning is implied in some of his remarks, especially those (p. 11) on the limitation of supply. He attributes much importance to *the love of variety*. "The mere necessaries of life are few and simple. Potatoes, water and salt, simple raiment, a blanket, a hut, an iron pot, and the materials of firing, are sufficient to support mere animal existence in this climate. . . . But no man is satisfied with so limited a range of enjoyment. Man's first object is to vary his food; but this desire, though urgent at first, is more easily satisfied than any other, except, perhaps, that of dress." The taste for dress ["has this peculiarity, that though it is one of the

[1] *Œuvres Complètes de Condillac.* Paris, 1803, 12mo, vol. vi. pp. 7-10.

[2] 1850.—English edition, *Harmonies of Political Economy.* Translated by P. J. Stirling, 1860, pp. 40, 47, 65, etc.

[3] *Traité*, 1858, tom. i. p. 28, liv. i. chap. i. § 2.

[4] *Traité*, 4th ed. 1860, chap. i. § 2, p. 7.

first symptoms that a people is emerging from the brutishness of the lowest savage life, it quickly reaches its highest point, and in the subsequent progress of refinement, in one sex at least, diminishes until even the highest ranks assume an almost Quaker-like simplicity. Last comes the desire to build, to ornament, and to furnish,—tastes which are absolutely insatiable where they exist, and seem to increase with every improvement in civilisation."]

Disutility and Discommodity

It is surely remarkable that, while economists have had so much to say about utility and commodities, they have seldom, if ever, used terms for the contrary notions. Perhaps our attention is more fixed on the utility which we desire to secure than the disutility from which we are trying to escape. Yet it would be difficult to deny that pain constantly attends pleasure, and, if so, we need the term disutility to express the circumstances or qualities of a thing which occasion pain to any person. Obviously the thing which, owing to its properties, place, and circumstances, happens to be occasioning pain must be called discommodity. It may almost go without saying that disutility is the negative corresponding to utility the positive; as pain is not simply the absence of pleasure, but an unquestionable evil which we strive to avoid as much as we strive to acquire pleasure, a quantity of one balances an equal quantity of the other; or rather, that quantity of pain which a man will just endure for the sake of a certain pleasure must be taken to be equal to it and opposite in sign.

It is of the essence of the views, however, which I am about to expound, to observe that there is no constancy in the relation of utility and disutility; all is a matter of circumstance, quantity, degree, or even accident. The very same kind of article which at one time and place is commodity becomes discommodity at

another time and place. Adam Smith[1] remarks, for instance, that barren timber is of great value in a populous and well-cultivated country, but that in many parts of North America the landlord would be much obliged to anybody who would carry away the greater part of his large trees. Observe, indeed, that Smith still thinks that utility would attach to some of the trees, and that the landlord would like to get rid only of the greater part. It is wonderful, again, to find that economists have constantly referred to water as an instance of a very useful substance, yet have seldom noted the fact that it is about as often hurtful. When Worcester[2] described the power of his "water commanding engine" he clearly appreciated the fact that water may have disutility as much as utility, saying, "There being indeed no place but either wanteth water or is overburdened therewith, (and) by this engine either defect is remediable."

Commodity Defined

Next after utility the word commodity will be most frequently used. It may be defined as anything possessing utility. The utility, as we have seen, is a circumstance, accident, or quality; being an abstract notion, it cannot physically exist except as the quality of a concrete thing. Bar iron is a commodity because it possesses the physical properties of strength, weight, etc., which give it utility. But under commodities we must certainly include the actions, motions, or other changes of concrete things. Thus the performance of an orchestra or the song of a vocalist has utility, and is therefore a commodity. It consists in the vibration of air produced by the motion of instruments or vocal organs. But just as air may be a commodity as useful for breathing, so vibrating air is another kind of commodity, because it is useful in producing the delights of music.

[1] *Wealth of Nations*, 1776, Book I. chap. xi. part 2, paragraph 5.

[2] "An exact and true Definition of the most stupendious water-commanding engine, invented by the Rt. Honble. (and deservedly to be praised and admired) Edward Somerset, Lord Marquess of Worcester," etc. etc., 1663, reprinted in his *Life* by H. Dircks, 1865.

It is needful to observe that some excellent economists, for instance Joseph Garnier,[1] have used the term utility in the concrete as well as the abstract sense, speaking of utilities in the plural as equivalent to commodities. But there does not seem to be the slightest advantage in this use of the word, while there is a great deal of harm. When we have the two distinct terms it is obviously best to employ *utility* exclusively in the abstract, and *commodity* exclusively in the concrete sense. For the sake of avoiding monotony it will be allowable occasionally to speak of goods, merchandise, articles of commerce, all which expressions may be regarded as synonyms of commodities, when there is nothing in the context to forbid this interpretation.

No doubt the word commodity was originally abstract in sense, meaning convenience or advantage, but in this sense it has long been obsolete. It is curious to observe what long and excellent authority we have for the definition of commodity now adopted. Locke, in his tracts on Interest and Money,[2] continually speaks of commodities exactly as we should speak now. Hobbes, again, in the 24th chapter of his *Leviathan*,[3] says, "As for the plenty of matter, it is a thing limited by nature to those commodities, which from (the two breasts of our common mother) land and sea, God usually either freely giveth, or for labour selleth to mankind." And it is remarkable to find him expressly observing a few lines below, "A man's labour also is a commodity exchangeable for benefit, as well as any other thing."

The present use of the word, not to speak of fallacies connected with it, mounts still higher in order of time. The wonderful metrical treatise called the "Processe of the Libell of Englishe Policye, exhortyng alle England to keep the see,"[4] describes (in chapter vii.) the commodities brought hither from

[1] *Traité*, §§ 45, 46. Donisthorpe, *Principles of Plutology*, 1876, p. 62.

[2] 1691. See Fox-Bourne's *Life of Locke*, vol. ii. p. 192.

[3] Edition of 1651, folio, p. 127.

[4] *The Libell of Englishe Policye*, 1436. Text und metrische Uebersetzung von Wilhelm Hertzberg mit einer geschichtlichen Einleitung von Reinhold Pauli. Leipzig, 1878, 8vo, p. 37; Hakluyt's *Voyages*, 4to, London, 1809, vol. i. p. 214.

all lands, but remarks about "the commoditees and nicetees of the Venetians and Florentines,"

"In our England are such commoditees withouten helpe of any other londe, which by witte and practike beth yfonde."

Utility and Usefulness

It has been explained by many economists,[1] and yet it is necessary to repeat, that we must not confuse our fundamental idea of utility with *usefulness*, or with any other notion implying moral approbation or reprehension. Utility, according to Dr. Johnson, is usefulness, profit, convenience, advantage; and in economics it must be taken with the utmost width of meaning. Whenever a thing is *de facto* desired by a person its possession is useful to him. Even that which is hurtful to a person may by ignorance be desired, purchased, and used; it has then utility. Objects intended for immoral or criminal purposes—the tools of the housebreaker, the revolver of the assassin—also have utility; the fact that they are desired by certain persons, and are accordingly manufactured, sold, and bought, establishes the fact. Shopkeepers contrast useful articles to that vague class of things which they call fancy articles, including such as are merely ornamental, fanciful, or superfluous. A plain durable woollen dress is useful; a bright silk one is a fancy article. Many people, again, would say that a diamond ring is not useful at all; it is merely ornamental. But the diamond employed by the glazier to cut glass would be called useful. With all such distinctions economics has nothing to do. It belongs to other branches of the moral and social sciences to investigate the ultimate effects of actions. In economics we treat only of proximate effects. A revolver is a means of attaining both good and evil, but we have only to consider whether it is wanted, and, if wanted, how it may be obtained with the least cost of labour.

[1] Walras, *Richesse Sociale*, 1883, p. 10; Courcelle-Seneuil, *Traité*, p. 46, liv. i. chap. i. § 5.

CHAPTER IV

Wealth

Definition of Wealth

So much controversy has arisen among economists as to the sense in which they should use the term wealth, that it seems to be indispensable to attempt to arrive at a clear idea. Etymologically, wealth is an abstract term signifying the state of well-being; it means *weal* or *welfare*. By the usual process of degradation it has come to be used in the concrete, to denote the things which constitute or contribute to the weal or welfare of the people. But plainly that which so contributes to weal is what satisfies the desires and wants of man. Plainly enough, anything which is not now wanted and never will be wanted by any man cannot contribute to anybody's weal. It is hardly possible to do better than to say with Lauderdale[1] that wealth consists *of all that man desires as useful or delightful to him*. This appears to be a correct description, provided we restrict the *all* to the actual portions of commodity desired. Man desires water, but not all water; man desires pepper, but not all pepper. Thus, when Lauderdale in the same page quotes Vauban's definition of wealth[2] to the effect that the true riches of a kingdom consists in the abundance of commodities, this again is a true and happy definition, provided that the abundance is of commodities and not discommodities. Abund-

[1] *Inquiry into the Nature and Origin of Public Wealth*, 1804, p. 56.

[2] *Projet d'une Dixme Royale*, 1707, 12mo, p. 26; Guillaumin's ed. p. 50.

ance of ice in London during summer is abundance of commodity; but abundance of ice in Greenland is abundance of discommodity. Berkeley,[1] again, defines wealth, much to the same effect, as "plenty of all the necessaries and comforts of life."

It all comes to this, then, that wealth consists in abundance of things which are *de facto* useful to us in abundance of utility. The wealthy man is one whose every want is satisfied by the appropriate object or service as soon as he desires satisfaction. Lord Palmerston is said to have defined dirt as matter in a wrong place; we may define wealth as *matter* (and services) *in a right place.*

J. S. Mill on the Definition of Wealth

It will not be possible nor desirable in this book, as a general rule, to enter into detailed criticism of other writings; but in certain cases criticism will be indispensable. It is essential, for instance, to point out that J. S. Mill's treatment of the definition of wealth cannot be accepted. The difficulty, indeed, is to ascertain what his definition is, for Mr. H. D. Macleod has shown[2] that, within the first sixty pages of his *Principles of Political Economy,* Mill introduces, or at least implies, three or four discordant meanings. Senior, Whately, and other economists have very truly remarked that it is in framing the elementary notions of the science that the greatest difficulty and the greatest need of care is found. On the second page of his work, in a well-known passage, Mill declares that it is no part of the design of his treatise to aim at metaphysical nicety of definition, where the ideas suggested by a term are already as determinate as practical purposes require. He had stated in the previous paragraph that every one has a notion, sufficiently correct for common purposes, of what is meant by wealth. I

[1] *Querist,* 1735-1737. Query No. 542.

[2] *The Principles of Economical Philosophy,* 2nd ed. vol. i. 1872, pp. 85, 86; vol. ii. 1875, pp. 104, 105.

find it impossible to decide, after careful reading of this page, whether Mill under common purposes includes scientific purposes, or the purposes of his own treatise. But readers have, I believe, generally understood Mill's remark about metaphysical nicety to mean that the common ideas of wealth are sufficiently precise for the purposes of the economist. However this may be, it soon appears that Mill's own ideas are not sufficiently precise.

On the eighth page of his *Principles* Mill lays down what seems to be a clear definition. "To be wealthy is to have a large stock of useful articles, or the means of purchasing them. Everything forms, therefore, a part of wealth which has a power of purchasing; for which anything useful or agreeable would be given in exchange." Difficulty arises, indeed, with the very next sentence, where he remarks that, "Things for which nothing could be obtained in exchange, however useful and necessary they may be, are not wealth in the sense in which the term is used in Political Economy." It would seem, then, that though to be wealthy is to have a large stock of useful articles, these things, however useful and necessary they may be, are not wealth; it is only when they have power of purchasing that they are included in the definition, although they are to be used as the means of purchasing useful articles. There is not much metaphysical nicety in these few sentences; but the difficulty which underlies them could not have been resolved without a theory of utility to which Mill was a stranger.

Mr. Macleod, indeed, considers that the power of purchasing forms the true criterion of wealth—an opinion which clearly coincides with that of Senior, as already expounded. In any case the definition, if once adopted, should be adhered to, and it is certainly a definition which might afford a good boundary to the science. Unfortunately Mill does not adhere to it; for in his third chapter,[1] when treating of unproductive labour, he comes to the conclusion—

[1] *Principles*, 1886, 9th ed. vol. i. Book I. iii. § 3, p. 59.

"It is essential to the idea of wealth to be susceptible of accumulation; things which cannot, after being produced, be kept for some time before being used are never, I think, regarded as wealth, since, however much of them may be produced and enjoyed, the person benefited by them is no richer, is nowise improved in circumstances. But there is not so distinct and positive a violation of usage in considering as wealth any product which is both useful and susceptible of accumulation." It would be difficult to be sure whether this very hesitating passage expresses Mill's own opinion or merely the common usage; but he, fortunately, resolves this doubt on the next page, saying, "I shall, therefore, in this treatise, when speaking of wealth, understand by it only what is called material wealth, and by productive labour only those kinds of exertion which produce utilities embodied in material objects." I shall elsewhere enter upon the question whether we should thus by an arbitrary definition cut out of our science a full half of its appropriate objects—namely, services of a passing and perishable kind. But, in any case, it is obvious that these services, including those of domestic servants, musicians, singers, actors, policemen, lawyers, medical men, and multitudes of others, are clearly included in Mill's previous definition. Such services have purchasing power because they are paid for, and in the case of a Sims Reeves or a leading barrister or physician, paid for at an extremely high rate. It is remarkable to find, too, that services of this kind, according to Mill, "cannot be spoken of as wealth except by an acknowledged metaphor." How can it possibly be an acknowledged metaphor, when most other good economists, including Mill himself in another place, expressly adopt a definition of wealth including such services?

Having regard to the doubt whether the passage quoted above represents Mill's own opinion or not, it is perhaps superfluous to analyse it minutely; but it must be pointed out, as Scrope has remarked,[1] that it makes the definition

[1] *Political Economy*, 2nd ed. 1873, p. 7, note.

of wealth turn upon the expression *some time*. Things which can be kept some time before being used are wealth; those which cannot be kept so long are not. No definition or means of defining *some time* are given, and this omission is sufficient to break the whole thing down. But if *some time* were determined to be, for instance, forty-eight hours, the absurd result follows that anything which lasts only forty-seven hours fifty-nine minutes and fifty-nine seconds is not wealth. It is impossible not to agree with Poulett Scrope that the inconsistencies — not to call them absurdities — into which these definitions lead Mill are only too apparent in the very pages in which he prints them, and in which he painfully and hopelessly struggles with the difficulties they create.

It is perhaps rather needless to point out that in other passages Mill employs or implies other discrepant definitions of wealth. He says,[1] "The production of wealth, the extraction of the instruments of human subsistence and enjoyment from the materials of the globe, is evidently not an arbitrary thing." Here, as Macleod remarks, the conception is quite different; the idea of exchangeability has entirely vanished from it, and the fact of being the instruments of human subsistence and enjoyment, the fact of having utility, is substituted.

Perhaps it is only fair to Mill to refer to a passage in the Preliminary Remarks where he defines wealth as "all useful or agreeable things which possess exchangeable value; or, in other words, all useful and agreeable things except those which can be obtained, in the quantity desired, without labour or sacrifice."[2] He then goes on to say, in a very characteristic manner: "To this definition the only objection seems to be, that it leaves in uncertainty a question which has been much debated—whether what are called immaterial products are to be considered as wealth; whether, for example, the skill of a workman, or any other natural or acquired power of body or mind, shall be called wealth or not,—a question not of very great im-

[1] *Principles*, 1886, 9th ed. vol. i. p. 26. [2] *Principles*, p. 10.

portance, and which, so far as requiring discussion, will be more conveniently considered in another place." Various reflections are suggested by the above. If the question of materiality is not one of importance, why does he so carefully dwell upon it afterwards, and finally make it a chief point in his eventual definition? Knowing, moreover, what is the result of his subsequent consideration, why does he here give a definition of wealth entirely inconsistent with his real one? He tells us here that wealth may be defined as all useful or agreeable things which possess exchangeable value. Afterwards susceptibility of accumulation is asserted to be essential to the idea of wealth. As regards Mill's opinion that the question is "not of very great importance," it may be noted that the point under discussion is just that treated in the third of Mill's *Essays on Some Unsettled Questions of Political Economy* [1844] where Mill (p. 75) rightly insists upon "the very great importance" of the ideas in question, and of turning the words with which mankind are familiar to the greatest possible advantage as instruments of thought.

Sufficient, however, has been said to prove that we have not common ideas of wealth sufficiently precise for scientific purposes, and that even Mill vacillates between two or three discrepant definitions. "Metaphysical nicety" is probably a dyslogistic term, and means that extreme nicety is not requisite in treating the basis of economics. There cannot, however, be a worse mistake in a theoretic economist, and it is certainly only by analysing and precising the fundamental ideas of the science with great care that we can avoid perplexity and fallacy.

So-called Natural Riches

It is indispensable to point out, before proceeding further, that there is an ambiguous use of the word *riches* which is sure to mislead those who do not carefully bear in mind its true

meaning. People speak familiarly of the great *natural riches* of such countries as the United States of America, Brazil, or even Borneo and New Guinea. They mean by natural riches the mineral veins stored with copper, gold, silver, and other metals; the beds of coal; the forests of fine timber; the fertile soil; the waters teeming with fish. Economists also introduce the expression. Joseph Garnier, for instance, gives a section upon "Richesses Naturelles,"[1] under which he includes such things as air, light, force of steam, electricity, metallurgical riches, cultivable soil, pasturage, mines, streams of water, etc. This use of the expression differs from that adopted by J. B. Say,[2] who understands by natural riches such things only as are given gratuitously and profusely by nature—such as air, light, water, and a crowd of other things of which the use has become so familiar to us that we enjoy them without thought. They belong to all the world, to the poor as well as the rich, and are only called riches, according to Say, in a general and philosophic sense. They are contrasted by him with artificial or social riches.

It cannot, however, be too clearly and emphatically stated, and too constantly borne in mind, that such things do not come under the term wealth, as used in economics, except incidentally. They may be necessary conditions of wealth, but they are not wealth unless actually applied to satisfy the wants of man. A stream of water may have been running in an unexplored mountain district for ages; but if no human beings have employed it for washing or culinary purposes, or otherwise, then it remains simply a stream of water. If at any time a saw-mill be erected beside the stream, the water will become wealth by being utilised in turning the mill. An undiscovered bed of coal is not wealth so long as it remains unknown; when it is discovered it will still not be wealth until it is either being worked or contemplated as about to be worked. There are, of course,

[1] *Traité d'Économie Politique*, 5th ed. 1863, p. 14.

[2] *Cours*, 2nd ed. 1840, vol. i. p. 66.

vast quantities of minerals hidden in the bowels of the earth which are no more wealth than if they existed in Jupiter or Neptune. It might save confusion of thought if for natural riches we were to substitute the expression *natural resources.*

No doubt natural riches have the physical properties which would allow them to become wealth under other suitable conditions. They might, therefore, perhaps be said to have *potential utility,* in the sense of that term which I have adopted in the *Theory*;[1] but potential utility does not really come under the science of economics. Only when there arises some degree of probability, however slight, that a particular object will be used by certain persons does it acquire prospective utility as regards them.

[1] 1st ed. 1871, p. 72; 3rd ed. 1888, p. 69.

CHAPTER V

Consumption

The Utilisation of Wealth

Certain economists, notably the French authors J. B. Say and Storch,[1] have been accustomed to treat, as one division of the science, what is commonly called the *Consumption of Wealth*. To consume is literally to destroy by fire—to make an end of a thing, as coal is burnt in the furnace, or food oxidised in the animal body. Matter, indeed, being indestructible, even such apparently complete consumption is only dissipation and change of form. But with change of form utility often ceases; the burning of coal having once fulfilled its purpose leaves only cinders, smoke, and noxious air, which are usually discommodities.

Evidently, however, the production of discommodity out of commodity is an unfortunate, though it may be an unavoidable result of using wealth. Our purpose in surrounding ourselves with wealth is not to consume it in the sense of destroying it, but to utilise it. If we could burn the same coal or eat the same food over and over again it would be a very economical arrangement. As Senior[2] has so well remarked, wealth is produced for the purpose of being made use of. Its destruction is an incident to its use not only not intended, but, as far as possible, avoided. And I agree with

[1] J. B. Say, *Treatise*, Prinsep's ed. 1821. II. Book III. ch. i. pp. 221-439. Henri Storch, *Cours d'Économie Politique*, 1815. Livre 7me. IV. pp. 63, 157. [Storch was a Russian.]

[2] *Political Economy*, p. 54.

Senior in thinking that it would be an improvement in the language of economics if the expression *to use* could be substituted for that *to consume*. In fact, wealth is no more made to be consumed than a china tea-service is made on purpose that a waiter may drop the tray and smash the cups and saucers.

Utilisation, then, not consumption, is the end and purpose of the production of wealth. Strictly speaking, it is only in proportion as we utilise wealth that it is wealth, and our purpose, having possession of certain commodities, must be to use them to the greatest possible advantage—to maximise their utility. But the problem thus set before us is not so simple as might appear at first thought. Commodities differ widely as to the conditions of their utilisation. Some must be used at once, like fresh vegetables, if they are to be used at all; others, such as chemicals, coals, candles, etc. may be kept for an indefinite length of time, but when used can be used but once. Other classes of commodities, on the contrary, may not only be kept for many years, but may be used over and over again to an almost indefinite extent, as in the case of jewels, books, solid pieces of furniture, and so forth.

In order to clear up this subject we must make a double division of the class commodity—(1) according as a commodity is or is not durable, say *durable* or *perishable;* and (2) according as the action of utilisation does or does not involve the destruction of utility, or say according as the commodity is *consumable* or *inconsumable*. There will, accordingly, arise four distinct species of commodity,—the durable inconsumable, the durable consumable, the perishable inconsumable, and the perishable consumable. The methods of maximising utility will differ widely in the four cases here enumerated, as we shall proceed to consider.

(1) *Durable Consumable Commodities*

As instances of commodities which are durable in nature so long as they are not put to use, we may mention such things

as salt, soda, soap, tinned meats, ink, fuel, gunpowder. The durability, of course, is a question of degree and length of time. Some things, such as carbonate of soda, may be kept for any length of time without alteration; others gradually suffer deterioration, or, as Jeremy Bentham calls it, deperdition.[1] Bread when once made is only eatable for two or three days; biscuits may be kept for several months at least; wheat when well stored rather improves than otherwise for one or two years. To realise the utmost utility of this class of things, they must be consumed when their utility is probably at the highest point. Comparing our present need of them with that which is likely to occur within the interval of duration, we must use so much at every opportunity as will, on the whole, give the maximum sum of utility. Turf, faggots, coal, must be sparingly burnt during spring and autumn; not at all during summer except for necessary culinary purposes; during winter they are freely consumed, especially during a severe winter. The question seldom presents itself in ordinary life in a simple form, because we do not usually depend upon our own stores of commodity, but can buy, from time to time, what we most urgently want. But a ship's crew detained by contrary winds or accidents must narrowly compare their stores with their probable detention. According to theory they should divide the stock equally over the certain period of detention, and then in decreasing rations over the subsequent detention, if it should occur.[2] A traveller in a malarious country will use his quinine sparingly until the first symptoms of fever may warrant him in making larger inroads; but he must always bear in mind the probable length of the journey and the possibility of future attacks.

Not only is the mathematical theory of the maximum utilisation of durable but consumable commodities rather complex, involving alike the degree of utility, the probability of utilisation, and the present estimation of future events, but it

[1] *Manual of Political Economy*, *Works*, 1843, vol. iii. p. 39.

[2] See my *Theory of Political Economy*, 1st ed. p. 77; 3rd ed. p. 73.

is further complicated in actual practice. By keeping a commodity any considerable length of time we incur both loss of interest on its value and the cost of storing and preserving it, not to speak of the loss by deterioration. The practical result arises, as we shall afterwards see, that people in ordinary society do not keep stocks of a larger amount than are necessary to meet the varying produce of the seasons, the accidental variations of demand. Stocks of property are, however, kept in a manner which we shall have to consider under the head of credit, banking, finance, etc. It is obvious that the simplest act of saving involves utilisation at the best time. Thus, if a gardener getting good wages saves a part of them to maintain himself in winter, he keeps only money. Somebody else keeps the corn, potatoes, bacon, and other subsistence which the gardener will utilise when he needs it much.

(2) *Perishable Consumable Commodities*

These commodities differ from the previously treated class in regard to their duration. Fresh butcher's meat, fresh vegetables, fresh eggs, fresh butter, milk, bread, are the chief instances of commodities which can be kept only a few days, and are consumed by one use. Fresh fish is even more perishable, and rapidly turns into discommodity. In such cases the economic problem is simplified very much by the force of necessity. We must use such things now or never, and we are thus relieved from making any calculations about the future. The method of utilisation consists either in apportioning the supply carefully to the needs of the day, or else rapidly extending the supply by exchange to other people. The butcher who is not well sold out on Saturday night disposes of the overplus at a nominal price to poor customers, or even gives it away. A cargo of pineapples arriving from the West Indies in doubtful condition is rapidly sold off in all parts of London by means of costermongers. Similarly an unexpectedly large catch of fish has to be almost given away. It follows that perishable commodities of this

kind are subject to great variations of value, as we shall afterwards see. Obvious advantage arises from modes of preserving such goods so as to allow equalisation of utility and value over a convenient interval of time.

(3) *Perishable Inconsumable Commodities*

This is the least important of the four classes into which we have divided commodities, but it is not without interest. I do not find it easy to mention many things which, though perishing of their own accord in a brief interval of time, are not destroyed by a single use. Cut flowers are, however, a case in point; they soon fade, but in the meantime give pleasure to as many people as can see them. Their utility, then, is to be increased by multiplying the number of persons who can enjoy them. Flower shows enable this to be done with much efficiency. On one occasion at a summer *fête* of the Royal Botanic Society there was exhibited a most beautiful night-flowering [*cereus,*] which had opportunely flowered, and which was seen by thousands of people, although it would fade before the morning. At the Crystal Palace were exhibited two American aloes in full blossom, such a rare sight being rendered available for multitudes of persons. Triumphal arches ..... are other instances of the class in question.

There are also a good many commodities which, although not actually becoming altered in themselves, lose their utility by the lapse of time or the change of fashion. The daily newspaper has little or no value to most persons the day after it is issued. The railway guide is useful but for a month or two. The almanac is mere waste-paper at the end of the year. Directories, address books, guide books, university calendars, and annuals of various kinds, retain a certain utility for several years, but, as regards most owners, then rapidly lose it. All such things must be utilised while they have utility, either by keeping the stock of them so small that they can be often used by their owners, or by various devices of hiring, circulation, public ownership,

which enable the same book or paper to be used by many persons, as we shall afterwards consider.

Many commodities of a permanent nature, as regards physical properties, are apt to lose their utility by changes of fashion and taste. The dress of a lady of the first fashion will serve but for the season. The *modistes* will take good care that it shall not suit another season. It is a part of the art of shopkeeping to produce a succession of novelties, and it follows, of course, that a good shopkeeper must sell out a stock completely while it is in fashion, otherwise it will become greatly depreciated. Slower changes of taste are continually going on as regards jewels, furniture, ornaments, carriages, and the multitude of fancy articles with which persons of wealth surround themselves. It is only by looking back for ten or twenty years that we can perceive how extensive are these changes; yet they are always in progress.

As Storch and Say have remarked,[1] these changes of fashion have the effect of destroying much utility and of occasioning much expense to the families or persons who give themselves up to the whirl of change. It has also the effect of disarranging certain trades in a serious way. Nothing, too, can be more intrinsically untasteful and absurd than to see all ladies suddenly breaking out into the same embellishments, unconscious of the fact that what suits one will naturally not suit another.

(4) *Durable Inconsumable Commodities*

The last class of commodities includes that immense mass of solid durable things which we can make use of time after time for many years. A house, a cart, a carriage, a knife, a plate, a book of permanent interest, a clock, an engine, a diamond, a picture, a statue—these and an infinite multitude of other articles change little by the lapse of time or taste. We therefore keep them by us for future use even if we do not

[1] Storch, *Cours*, 1823, vol. ii. p. 475; quoting Say, *Traité*, 1803, 1re ed. vol. ii. p. 351. *See* 4me ed. 1819, vol. ii. p. 235.

want them at the moment. But their utility will, of course, be increased the more often we can arrange to use them, so that it is often better to hire, or to buy and sell, or to make various arrangements for common usership.

It will, of course, be obvious that the duration and permanence of utility is in every case a question of degree. The diamond ring hardly admits, indeed, of the idea of wear and tear, but it will not unlikely be lost sooner or later if constantly worn. A glazier's diamond is subject to wear, and only serves for some months or years according to the constancy of usage. The hardest steel file, emery wheel, or grindstone, wears rapidly by continuous employment. Pictures are entirely uninjured by simple inspection, but the necessary exposure to light, air, and smoke occasion slow decay. Carpets are said to wear, on the average, seven years. The duration of furniture naturally depends upon the goodness of its construction and the care with which it is treated. It often outlasts the fashion which gives it utility, and there is a good deal of Chippendale and other old furniture which has sprung into a new life by the resuscitation of old fashions.

Successive Utilisation

Although commodities have been divided with apparent success into four distinct classes, the fact is that there are many complications and apparent exceptions in the matter. It is rarely that any article is entirely consumed and made an end of, like a candle, by being once used. Very often commodity which is consumed in one way acquires utility in another way : straw which has served as litter for horses becomes manure; the timbers of an old ship are broken up for firewood ; old newspapers serve for lighting fires ; bones are ground up for manure ; old parchment is used in making toys ; and so forth *ad infinitum*. Before the use of paper was introduced parchment books were often utilised twice or even three times, the former

writing being erased by pumice stone in order to allow a new text to be written.

Some cases of re-utilisation are not agreeable to dwell upon. In a large city, for instance, dead cats and dogs furnish skins for the furrier and animal material for the manure manufacturer. Dead horses are cut up and distributed to a score of trades—the tanner, the turner, the manure manufacturer, the glue and gelatine maker, the sausage man—while the flesh is sold about the streets by the cat's-meat man.[1] If too much decayed to please the cats the flesh is used to breed maggots, which maggots again fatten poultry, and thus supply the dainty chickens of a West-End luncheon.[2]

Another important case of re-utilisation occurs in the case of houses, which often serve for several different ranks of occupants. Many a fine old mansion in the city has been turned into the offices of stockbrokers and lawyers. In other parts we see whole rows of houses once the abodes of fashion now become common lodging-houses, each room perhaps the refuge of a family. It is one of the great difficulties in the way of providing healthy dwellings for the poorer classes that they can find accommodation in deserted neighbourhoods more cheaply than it can be provided in newly-constructed dwellings.

I have already referred to the fact that changes of fashion rapidly destroy the utility of much of the clothing of the richer classes. It is only, however, the first utility which is thus lost, because all cast-off clothes go through several phases of utilisation. That which is cast off by the lady of fashion is valuable in theatrical circles or the *demi-monde*. The shabby dress coat reappears on the shoulders of the coffee-house waiter. Old clothes of all kinds are the matter of a most extensive trade centred in the Mart at Houndsditch. Some garments, such as ordinary black cloth suits, serve again after passing through the

[1] *Bethnal Green Museum, Descriptive Catalogue of the Collection illustrating the Utilisation of Waste Products*, 1875, p. 47.

[2] Mayhew's *London Labour*, 1862, vol. ii. p. 8.

hands of the "reviver," who mends and cleans them, restores the threadbare portions with peculiar art, and turns them out again apparently new. Clothes too much worn to admit of reviving are "translated"—that is to say, taken to pieces, cut up, and made into totally different garments. The skirts of frock coats, for instance, are made into waistcoats and children's coats. Old silk hats are revived in a wonderful way, being cut down to remove the grease marks, relined, and turned out almost new again. Even boots and shoes apparently past hope are cut down, refronted, and variously translated.[1]

It is entirely false pride which leads many persons, both wealthy and poor, to consider it mean to dispose of cast-off clothing, waste-paper, or other household offal. They throw things in the fire rather than allow it to be supposed that they could possibly wish to make a few pence by selling such rubbish. Actually to destroy such wealth, for wealth it is of a kind, is a crime against society and against the poor. Were cast-off clothes and other like refuse generally destroyed, the poorer classes would be to a great extent deprived of good and cheap clothing, and many important branches of trade would wither. Practically, a considerable quantity of refuse passes into trade in the form of perquisites: the lady's-maid has a sharp eye on her mistress's robes; the cook takes care of the old bones and the dripping, if not something more; the office-keeper or the charwoman secures the waste-paper, and so forth. The system of perquisites, however, is always likely to lead to abuse. Some years since an attempt was made to organise a brigade of boy collectors of household refuse, but, as nothing has been recently heard of it, I presume the attempt failed. But I think that if through some such brigade of collectors people could be got to contribute their old clothes, rags, and other rubbish for charitable purposes, a great deal of wealth would be saved. Already

[1] Mayhew's *London Labour*, vol. ii. p. 29, etc.; *Bethnal Green Museum, Descriptive Catalogue of the Collection illustrating the Utilisation of Waste Products*, 1875, p. 53.

it is common to give away clothing to poor dependents or even poor relatives ; and, having once passed the circle of gentility, it is pretty sure to reach the rag-collector and the shoddy dealer. It would be a really great blessing, however, to many householders if they could, say once a week, hand out any unconsidered rubbish and other trifles to an authorised collector, with a confident belief that their value would be realised honestly, whether for his own profit or for that of some charitable institution.

Utilisation of Material

One special case of re-utilisation is presented by the manner in which it is possible to use metal over and over again. Any material, in fact, which is fashioned in the molten state and does not rust away may be refashioned in the same way. Lead, for instance, does not lose very much by exposure, and any old lead can be very readily melted up and employed for new purposes. Iron is subject to oxidation, but the percentage lost varies much according to the massiveness of the structure. A solid cast-iron girder, for instance that of an old bridge, will contain almost as much metal as at first when broken up and sold as old metal. Thin iron plates and wires, on the contrary, soon become so corroded as to be valueless, or nearly so. Copper and brass are less readily corroded, but there is always a very considerable loss, perhaps twenty-five per cent, in remelting.

The precious metals gold and silver stand in an altogether peculiar position in this respect, and the fact becomes in the theory of value and currency one of the greatest importance. Gold suffers actually no loss at all from atmospheric exposure ; silver becomes covered with a thin film of silver sulphide, which, however, soon protects the underlying metal from further action. Both these metals can be melted with a loss varying according to circumstances, but seldom exceeding two or three per cent. Even the gold spread over picture-frames in the form of gold-

leaf is almost entirely recovered by making bonfires of old frames and then refining the ashes.

A considerable amount both of gold and silver is annually lost, no doubt, beyond recovery; impalpable particles are worn off coin and plate; the metal used in electro-plating is mostly lost; photographers use up a considerable quantity of gold and silver compounds, especially the former. Elaborate attempts have been made to estimate the amounts thus dissipated, but I need only refer to a few of the sources of information in this place.[1] Such estimates are in any case very uncertain. Far more uncertain is it how much is lost by secret hoarding and burying in uncivilised countries, or by shipwreck, casual dropping, etc. in all parts of the world. The annual loss does not probably exceed one-half per cent of the whole stock both of gold and of silver. If so, the average duration of utilisation of these metals is two hundred years, as I have pointed out in another place.[2]

Although the re-utilisation of gold and silver is of the highest importance in producing steadiness of value, it is yet remarkable how small a percentage of the present value of gold and silver articles is due to the ultimate price of their material. Assuming silver plate to be bought at six shillings per ounce (including duty), and after thirty years' use sold at three shillings per ounce, with a loss of say twenty per cent in weight, I find by a simple calculation that the return from the material only represents twelve per cent of the total cost. The return in money is, no doubt, forty per cent of the original expenditure; but in the meantime there is a loss of interest (say three per cent). While, in fact, it is much better to re-utilise material than to lose it altogether, interest becomes a matter of great importance when the duration of a commodity is so much prolonged.

[1] See (*e.g.*) *Reports of Gold and Silver Commission*, 1887-88. The world's *industrial* consumption of gold and silver in 1901 is estimated at 119,271 kilograms of gold and 1,370,685 kilograms of silver (*U.S. Mint Report*, 1902, p. 342).

[2] *Theory of Political Economy*, 3rd ed. p. 240.

Education of Tastes

Given certain wants, how may they be satisfied with the least labour? Such is the problem of economics when strictly limited and defined. The economist must take the nature of the man or the woman as he finds it. But it may be difficult to resist pointing out how slight an alteration of wants and tastes would often result in a great increase of wealth. Human nature is no fixed whole, and the wise course may be to suit ourselves to our surroundings instead of trying to modify our surroundings to suit us. It has been stated,[1] I know not with what degree of truth, that while the great Irish famine was at its worst, abundance of salmon and other fish could have been had for the trouble of catching; scarcely one of the starving peasantry would consent to touch it.

However this may be, there can be no doubt that a vast deal of what might become wealth is wasted through prejudice, false taste, or want of knowledge. The taste for fine white bread which prevails among all classes of the English is very wasteful, as well as unwholesome. The rejected integuments of the wheat contain phosphates, lime, and other constituents which are valuable especially for the young.[2] The oatmeal diet of the Scotch must have contributed towards creating their character of invincible energy and sound intellect. Brown or whole meal bread is more tasty than the dry, white, tough article which passes for bread in England. It is much to be hoped that the Bread Reform League lately started may succeed in overcoming the absurd prejudice in favour of white bread, which seems to be mostly sustained by false pride.

Much more might be done in utilising cheap kinds of food, such as hominy, beans, lentils, oats, onions. Potatoes are already sufficiently used, and dependence upon so cheap but

[1] Murray's *Guide to Ireland*, ed. 1871, p. xlviii.

[2] George Dodd on the *Food of London*, 1856, p. 204.

precarious a food should be discouraged. We should aim rather at variety, so that the variations of the crops may neutralise each other in the aggregate. Hitherto the English labourer's ideas of diet have been practically restricted to bread, potatoes, bacon, with beef and mutton on the horizon. Nothing can be more senseless than the contempt of the English peasantry for blackberries, which make delightful and wholesome pies; but the prejudice against them varies much in force in different counties. There is hardly any nation which knows so little how to utilise possible food. The Parisians, as is well known, have a much wider range, consuming horseflesh, funguses, snails, frogs, and many other delicacies which an Englishman enjoys in the Palais Royal so long as he does not know their name.

But we must draw the line somewhere, and it does not seem likely that we shall ever see dogs, cats, and rats utilised for food in London as they are in the crowded Chinese cities. According to Archdeacon Gray's interesting work,[1] a dinner may be had at a dogs' and cats'-meat shop in Ying-tong for 7½d. A small basin of black cat's flesh costs only five cents, but a pair of cat's eyes, which are esteemed delicate, cost four cents. Rats also may be seen ready for cooking at the poulterers' shops, and dried rats and dogs are a regular article of trade. I need hardly remind the reader of the taste of the Chinese for birds' nests, and for the sea slugs known as trepang.[2]

Reproductive Consumption

From consumption properly so called we ought to distinguish the case of the reproductive consumption of materials in the manufacture of goods. We should commonly say that a con-

[1] J. H. Gray, *China: A History of the Laws, Manners, and Customs of the People.* Edited by W. Gow Gregor. 1878. 2 vols. 8vo. Vol. ii. pp. 75-77.

[2] Harris's *Voyages*, 1st ed. 1744, i. p. 818*a*, par. 19. Asem (Assam). "Though their country is very plentiful in all things, yet there is no flesh they esteem so much as dog's flesh, which is the greatest delicacy at their feasts, and is sold every month in every city of the kingdom upon their market-days."

siderable quantity of silver is consumed by photographers; that sulphuric acid is consumed by chemical manufacturers in making soda carbonate; that mahogany is consumed by the cabinet-maker; and so forth. It is evident, however, that in such cases of consumption there is no loss of utility, but a gain. The mahogany is intended for making chairs and tables, and the logs are useless unless they be sawn up and employed in some such way. There is, in fact, no consumption at all. If we are to use this word at all, it must imply loss of utility; but when materials are used in the arts, there is gain of utility in the absence of unskilfulness or misfortune. Perhaps we may regard such consumption as really exchange of material and labour for finished goods. The materials are put into the machine, the cauldron, or the furnace, and a useful result comes out. But to this subject we shall return under the head of "Production."

In writings of the Ricardo-Mill school we find a great deal said about *productive* and *unproductive consumption*. By the former is meant the consumption of a workman engaged in productive employment; by the latter the consumption of an unemployed person. It makes a great deal of difference to the wealth of the country whether people are employed or are not; but this is a question of production, not of consumption. People must live, and therefore they must consume at least the common necessaries of life. As regards luxuries, it is said that their consumption is in any case unproductive, because people could go on producing just as well, if not better, without them. The idea is, then, that only when just enough food and other maintenance is given to a workman to enable and induce him to go on producing is the consumption wholly productive.

I shall, however, hope to make it apparent in the sequel, by degrees, that there is a complete confusion of ideas in this doctrine. All consumption is simply consumption, and, except in the ambiguous case of the consumption of materials, consumption cannot possibly be called productive. Unless a man be left to starve he must go on consuming whether as a beggar, a

pauper, or a well-employed artisan. If he works hard and very productively, it is in order that he may have more to consume. The only purpose of production is consumption, or, as sufficiently explained above, utilisation. Nor is the distinction between necessaries and luxuries of any importance in this respect. The manager of a large factory lives in a luxurious house, but unless he were paid sufficiently to enable him to live so, he would not have the reward stimulating him to successful management. If he is an able manager, his salary, though possibly large, may be considered the most productive part of the expenditure; it is that without which the labour of the rest of the workmen would be wasted.

CHAPTER VI

Multiplication of Utility

It is now apparent that wealth is wealth only in proportion as it is successfully applied to the satisfaction of human wants, and we have seen that consumable commodities are to be maximised in utility by being used at the time and by the person most needing them. Bestowing more special attention now upon the articles which are not disutilised by a single act of employment, we find that there are several ways in which we may turn them to the greatest account. A single person, indeed, cannot raise the utility of things owned by him except by taking care that he makes or purchases nothing but what is well suited to his purposes. To use a thing merely for the sake of using it does not produce utility, but rather the reverse. If a person owning a horse has to ride it more often than he likes, either to keep it exercised or to persuade himself that it is not useless, then the horse is discommodious to him; he has to spend more labour upon it than he gets satisfaction. But if he lends it to a friend who needs the use of a horse, the utility of the animal is obviously increased.

The methods of multiplying the utility of inconsumable articles mostly turn upon arrangements for the joint or successive use of things by several persons. In reading a book with moderate care we do no appreciable injury to it; hence a score or a hundred persons may use the same book one after another without consuming it. But the greater number of readers do not want to read the same book more than once.

Novels, biographies, and light literature generally, are generally perused once and once only. There would obviously be much needless cost, and therefore loss of utility, if each reader purchased and stored up a library of books which he would never want to read again. He buys and keeps, therefore, only the comparatively few books which he wishes to read frequently, or refer to occasionally, or which his family and friends may wish to use at one time or other. The other more ephemeral works he hires from some kind of circulating library. A public library can supply books for reading at a very low average cost because the same book is used over and over again by several or many, it may be, hundreds of people. Finally the book is sold at a reduced price to the one person who happens to desire to keep it permanently.

Circulating Hire System

By this name I propose to denote any arrangement which allows the same permanent commodity to be used successively by different persons in return for a fee, fare, or price. The advantage of hiring rather than owning things is especially great when they are very seldom wanted. The ordinary resident in a semi-detached villa does not keep the stock of glass, china, seats, and other utensils required for a wedding feast or a coming of age. If, then, he desires to give an extensive entertainment on some special occasion, he hires all such requisites, including perhaps a marquee for a large ball-room, from the rout-furnisher. The marquee, the china, electro-plate, flags, carpeting, etc. travel about to all parts of the town or country, and may be used fifty or more times in the year instead of once in ten years, as they would if owned by a private person. A man, again, who very seldom attends balls will save money by hiring his dress clothes. There are shops in the neighbourhood of Covent Garden and Chandos Street where the lending of such clothes is made a regular

business.[1] The prices do not seem very low: one night's hire of a dress coat alone costs five shillings, a vest costs two shillings, and trousers three. Thus ten or twelve hirings would cost as much as a new suit. The heavy black cloaks, hatbands, scarves, and even gloves, used at the funerals of the poorer classes have long been provided by the undertakers on the hire system. Nor are the wealthier or even the aristocratic classes unacquainted with the convenience of the system. It is said that hired Court suits sometimes appear at Court, and that great ladies will sometimes supplement their *parure* with hired diamonds. Academic gowns and caps are frequently hired for special ceremonies.

The hire system is, of course, extensively carried into effect as regards hackney carriages, or cabs of various sorts, post-chaises, pleasure boats, bicycles, etc. The comparative cheapness of cabs is due to the fact that they are kept in far more constant employment than is possible with any private carriage, excepting, perhaps, that of a physician. The same cab is sent out several times in the day with fresh horses so as to be kept in the highest state of utilisation. If a family hire or, as it is called, job a carriage, horse, and coachman, for their own exclusive use, this costs in London about £200 a year, which would pay for a dozen shilling journeys in ordinary cabs every week-day in the year.

It will afterwards be pointed out that the multiplication of utility is carried out to a most important degree in the production of goods as well as their consumption. To make goods rapidly and cheaply they must be made with the assistance of a set of special tools and machines of a costly nature; the work must, therefore, be concentrated so that such implements shall be kept in constant and efficient action.

[1] Dickens's *Dictionary of London*, 1879, p. 90.

Common Ownership

Closely akin to the system of hiring articles of permanent utility is that of owning them in common by means of societies and clubs of various sorts. It might almost go without saying that when a thousand, or five hundred, or even one hundred persons join their funds together to provide conveniences for their common use, it will be possible to have luxuries of a permanent kind vastly exceeding what any of those persons could singly afford. In a first-class modern club-house the subscriber, for an expenditure not usually exceeding ten or twelve pounds a year, including entrance fee, enjoys the use of a kind of palace. He has palatial apartments luxuriously furnished, supplied with every possible convenience. He also has an amount of periodical or permanent literature such as he would never think for a moment of purchasing. Every public newsroom exemplifies the multiplication of utility in a very marked way. It is evidently very useful to be able to glance over a number of periodicals so as to detect any article of interest; it is also most convenient to be able to refer to periodicals without the trouble, delay, and expense of ordering separate numbers.

In respect to the victualling arrangements, the economy of clubs is less remarkable, partly because the demand being uncertain, but peremptory, the supply must always be ample, and much must be wasted or only utilised in a secondary manner. The superintendence, too, of culinary matters by a committee of subscribers is almost of necessity lax and inefficient. Could these difficulties be overcome there is no doubt that arrangements for joint consumption would be most economical, as Say has remarked.[1] In poorhouses, prisons, nunneries, barracks, and other like establishments, where a large but fixed number of persons are regularly fed, the food can be provided at the lowest prices, and cooked at a fraction of the cost incurred in detached

[1] *Traité*, vol. ii. p. 201, liv. iii. chap. iv. § 3.

private houses. The poorest English family boils its own kettle, but among that ingenious and economical people the Chinese, it is usual to sell boiling water—a large kettle full of which can be had for the minute price of 2 cash.[1] The English fashion of constantly maintaining a large kitchen fire and having every meal cooked at home is undoubtedly wasteful in the extreme. In continental cities the father of the family takes only the morning and evening meals at home; he dines at the table of some hotel or restaurant, with which he makes a contract securing a variety of fare at a lower price than would be possible in his own house. The Englishman's club, indeed, serves somewhat in the place of the continental *table d'hôte*, but the question is one of manners more than of economics. In some of the newly-built suburbs of London it is proposed to provide a kind of club-house where the residents of a particular district or estate might dine together and meet with common conveniences. This is a great innovation upon English suburban life, which is founded upon the strictest ideas of privacy. But in any case it is a desirable experiment.

Public Ownership

The most extreme cases of the multiplication of utility are probably afforded by institutions or edifices provided for the enjoyment of the public at large, and paid for out of the public revenue, local or general. The cost of a public seat, for instance, placed by the wayside is nothing compared with the convenience it gives. A well-constructed seat may last for twenty or thirty years, and the wear occasioned by sitting upon it is infinitesimal. A public clock, again, is even a more striking instance, because the looking at a clock's face does not in any degree affect it. Thus, a clock like that of Bow Church, or the Houses of Parliament, is glanced at by millions of people with-

[1] Gray's *China*, vol. ii. p. 73.

out any addition to the cost of maintenance. The cost of each act of utilisation is, therefore, practically *nil*. On the other hand, to maintain a private watch in good condition costs probably twelve shillings a year at the least, and if it be consulted on an average ten times a day the cost on each occasion will be one-fifth part of a farthing. In the case of a first-class watch the total cost will probably be twice as much, or one-fifth part of a halfpenny on each act of utilisation.

The same principle applies to the multitude of institutions which we find in a modern great city. A citizen has beautiful parks to walk in, extensive museums to instruct and amuse him, galleries full of the best works of art, free libraries where he can borrow and consult books free of charge; the streets are carefully paved and cleaned for his use; policemen protect and assist him; public monuments adorn the street,—for all, and a great deal more, he pays not a halfpenny at the time. True, the rates and taxes when they come to be demanded always seem heavy, but if they be compared with the immense public means of good and enjoyment provided in a city like London the cost will be found trifling.

The extent to which it is well to go in thus providing works of public utility is a question of much difficulty. One obvious objection is that the expenditure is, as regards any individual, compulsory. A person may have no taste for a Raphael or a Turner, but if the Corporation of his town decide to have a public art gallery he must pay his small quota. The old idea was that only works of absolute necessity, such as highways and bridges, should be provided by the public; but public seats, clocks, finger-posts, markets, weighing-machines, and many other things, are long-established exceptions. It is obviously impossible to draw any precise line. There can be little doubt that, as civilisation progresses and the political organisation of peoples is gradually developed and perfected, the public expenditure in works of utility will increase to the average advantage of everybody. When pushed to an

extreme, however, this public ownership verges upon the idea of communism.

[The reader may compare Fourier, *Théorie des Quatre Mouvemens*, 1808, pp. 162, 163, 273. In *Sectes Saint Simon et Owen*, 1831, p. 18, Fourier instances the circulating library as an example of the economies procurable by association. A passage more *à propos* of the last sentence in the text will be found in Proudhon, *Contradictions Économiques*, 1846, ii. pp. 333-343.]

Multiplication of Efficiency

It will afterwards be explained that the advantages of the division of labour arise in a great degree from the multiplication of utility as developed in productive processes. But it may here be mentioned that in not a few cases the division of labour leads to a direct multiplication of useful services. The personal service of various kinds of servants possesses direct utility for those who need the service. If, then, the same servant can without extra labour perform the like service for several persons, the efficiency of his service is multiplied to this extent. Whately[1] has admirably pointed out that when a party of travellers in a desert country prepare to camp out for the night they naturally make some division of the work to be done. While some unlade and fodder the cattle, others fetch firewood from the nearest thicket, and others again seek water; some will in the meantime be engaged in pitching the tents and preparing the food, while it is possible that one or more may have to act as sentinels. It is evident that, unless such organisation of the work were arranged, each man would have to procure his own fuel, light his own fire, dress his own meal, pitch his own tent, fodder and watch his own animal, and act all the time as his own sentinel. In the case of the fire and the sentinel especially, it is plain that one man may as well do for the whole party what he must in any case do for himself, so

[1] *Introductory Lectures*, 1832, lect. vi. p. 88.

that the efficiency or utility of his services is multiplied by the number of the persons served.

The same principle is at the bottom of many of our most important industrial and social institutions. The post-office entirely owes to the multiplication of efficiency its remarkable success. As Senior remarked,[1] the same exertions which are necessary to send a single letter from Falmouth to New York are sufficient to forward fifty, and nearly the same exertions will forward ten thousand. If every man were to carry his own letters, a merchant would spend his whole life in delivering the letters which the post-office now despatches in a single evening. Of course foreign correspondence would be practically impossible without some kind of postal service, but even inland correspondence would be an exceedingly costly affair if each letter had to be carried by a special messenger, as was the case not long ago in Haiti.

The services of the police, again, are greatly multiplied. Each policeman is able on the average to protect about 500 persons, and while two or three men are patrolling a town at night ten thousand people may repose in safety.

The most remarkable of all cases of multiplication of efficiency, however, is the indefinite multiplication which is possible in the case of information or knowledge. News is repeated from mouth to ear; each repeater of the news is like a relay apparatus. If the first discoverer of any event tells only ten people, and each of those ten tells ten more, and so on, only six repetitions will be needed to inform a million people. By means of the printing press, however, the dissemination is rendered immensely more rapid. If the Director of the Meteorological Office discovers that a storm is coming he promptly informs say one hundred newspapers, each of which prints on an average say, for the sake of argument, 50,000 copies. If each copy is read only by two persons, the information is multiplied at only three stages ten million times.

[1] *Political Economy*, p. 74.

CHAPTER VII

Luxury

In treating of the utilisation or consumption of wealth, it is indispensable to make some attempt to arrive at a clear idea of what constitutes extravagant luxury. It is a favourite topic with moralists to declaim against the luxury of the age, and to point out what immense savings there would be if people avoided this or that item of expenditure. In the United Kingdom the carriages and horses of the rich are supposed to cost about £40,000,000, or half the public revenue.[1] The expenditure on intoxicating liquors of different kinds is estimated by Mr. W. Hoyle at £140,000,000, the whole of which might, in his opinion, be retrenched with advantage and enormous saving. It would be easy to show, in like manner, that if men would give up smoking, if ladies would wear the plainest bonnets, and so forth, vast additional sums would be available for the savings bank.

At all times there have been philosophers who condemned what they called luxury. Much of the moral wisdom of the Stoics and Cynics turned upon the contempt of wealth and the cultivation of the simplest tastes. Such opinions are well reflected in Fenelon's *Télémaque*—a work which has been recognised as containing many interesting economic remarks. We are told[2] that, in the kingdom of Idomeneus, Mentor banished all ornaments of gold and of silver; he prohibited the importation

[1] *The Spectator*, 11th August 1877, p. 1004.

[2] *Les Aventures de Télémaque*, 1699, liv. x. p. 72; *Oeuvres de Fénélon*, vol. iii. Paris, 1845.

of all foreign merchandise which could lead to luxury and effeminacy. He tried to reduce all things to a noble and simple frugality. Embroideries of excessive price, gold and silver vases with figures of gods, men, and animals, and even liqueurs and perfumes were retrenched. The furniture of each house was to be simple but durable. In a later book Fenelon gives, in the course of a speech from Mentor, still more explicit condemnation of luxury.[1] "The other evil, almost incurable, is luxury. As too great authority demoralises kings, luxury demoralises a whole nation. They say that luxury serves to maintain the poor at the expense of the rich, as if the poor could not gain their livelihood more usefully in multiplying the fruits of the earth, without enervating the rich by voluptuous refinements. A whole nation becomes accustomed to regard superfluities as necessaries of life. Every day new necessities are invented, and we can now no longer do without things which were unknown thirty years ago. This luxury is called good taste, perfection of art, and national culture. This vice, which leads to an infinity of others, is praised as a virtue; it spreads its contagion from the king down to the lowest dregs of the people."

The ideas here clearly expressed may be found repeated by moralists without number. . . .

In the first place, it must be obvious that what is usually called the consumption, that is to say, the utilisation of wealth, is the sole purpose of production. Consumption is the end, and if we do not intend to consume, we shall have no incentive to produce. If, then, we are to cut down our needs to the simplest fare compatible with life, we must relapse into the inactivity of savage life; we must read backwards the whole recent history of economic progress. As such can hardly be the intention of those who would in the present day condemn luxury, it becomes requisite to examine their position somewhat more in detail.

There can be no doubt that much of the difficulty of this subject arises from the ambiguity of the word by which we

[1] Liv. xvii. p. 32.

denote it. A man may be called luxurious simply in comparison with other individuals.[1] The idea at the bottom of the matter is a relative one, and we may well adopt the suggestion of Condillac,[2] and substitute the word *excess* for *luxury*. A man no doubt falls into culpable luxury if his expenditure in certain directions is in excess of what his income allows. He, for instance, who buys an expensive watch and chain while he is not clear about being able to pay his debts is clearly buying a luxury. To the really wealthy man such a watch and chain might be very proper and of moderate cost.

One of the most common topics of the commonplace moralist is to hold up to ridicule and obloquy the expenditure of the poorer classes upon dress. The servant-girl is reprobated because she apes her betters and appears at church in bright ribbons and silks. How much that is spent on vanity might be laid up for future use in the savings bank! No philosophy, however, can be more ill founded than that which ignores if not condemns personal vanity. It is a very primitive, and, comparatively speaking, a low instinct which leads to the desire of personal adornment and distinction, but it is nevertheless the first rung upon the ladder of refinement. I have heard it well remarked that the missionaries have done some good in Jamaica: they have made the negroes delight in wearing a black coat on Sundays. About their Christianity let us say nothing. If the negro does not care about the black coat, he will simply wallow in idleness so much the more during the week. Say long ago remarked that the satisfaction of vanity is sometimes as imperious a want as hunger. By the light of Darwinism it is impossible not to see that it is ingrained in men, and especially in women, by the force of endless heredity. The girl delights in ribbons, or the negro in a black coat, on the same principle that the lark warbles or the peacock spreads his tail.

The fault appears to me entirely to lie with the richer, not

[1] *Whately*, 4th ed. 1855, p. 34.

[2] *Le Commerce et Le Gouvernement*, 1776, chap. xxvii. *Du Luxe*, p. 297. Guillaumin's *Collection*, xiv. p. 351.

the poorer classes, because, having long since attained the first rung of the ladder, they ignore the comparative excellence of the higher rungs. Let the mistress who condemns the vanity of her servant-maid begin by herself putting vanity aside and bestowing her expenditure upon higher objects. Do we not, however, still find that a large part of the wealthy classes vie with each other in the simplest and lowest forms of ostentation —in the number and novelty of their dresses, the brilliance of their equipages, the stature and livery of their flunkies. . . .

The expenditure of the rich is clearly to be condemned when it leads, directly or indirectly, to the injury of the other classes of the community. In many a part of this kingdom a rich landowner pays gamekeepers to exclude the hard-worked artisans from enjoying a breath of fresh air and a glimpse of nature upon the neighbouring moors. In order that half a dozen gentlemen may enjoy a brutal kind of sport, the gifts of Heaven are denied to thousands. Such a monstrous perversion of the so-called rights of property cannot long be permitted to continue. This is a case of very direct injury. The profuse expenditure of the rich upon horses is a case of indirect injury through the infinitely pernicious system of betting which it fosters.

Expenditure on Durable Objects

In the wise ordering of consumption much attention must be given to maintaining a due balance between expenditure on durable articles and that on things of fleeting utility. It is obvious that if a person of means expends them in luxurious dinners, costly wines, in living at expensive hotels, keeping race horses, crowds of servants, and the like, there may arise some passing amusement, but, that being gone, nothing whatever is left. Another person of means may expend them in purchasing estates, erecting mansions, collecting libraries, works of art, purchasing jewels and articles of vertu. He surrounds himself with things which, whether useful to the purchaser or not, will

at any rate last ; they can be sold again to other purchasers, or in any case will descend to heirs or representatives. Remembering what was said in the chapter on Consumption, it will be apparent that this durable expenditure involves only slow consumption. The owner may or may not properly utilise his property while he holds it, but his successors will have the chance of utilising it. There is the great and obvious advantage about such expenditure that it tends to increase the aggregate means of happiness of people in general. There is a storing up of beautiful and agreeable things ; there is, in fact, saving rather than consumption.

To exhaust the subject thoroughly, indeed, we should have to inquire whether the durable things erected or made are capable of subsequent utilisation. If a man erects a senseless and useless structure, like Beckford's Tower near Bath, or the uninhabitable houses usually called "Follies," of which one is found in almost every hundred, he adds nothing to human enjoyment. There is a dead loss of labour. The same may be said of the vast tombs, pyramids, temples, and other costly structures raised in former ages and in Oriental countries. However wonderful and interesting such monuments may now appear, it is fearful to think of the aggregate of human suffering which they represent, erected as they were by slave or forced labour, and with no motive but that of gratifying the pride of a monarch or the rapacity of a priesthood. . . .

CHAPTER VIII

Value

We now come to treat of that most important economic relation Value, meaning of course exchange value, or value in exchange. There are not wanting economists who have held that value is the alpha and omega of the science of political economy. Whately was of this opinion when he proposed to call the science Catallactics, or the science of exchanges. Man, he thought, might be defined as an animal that exchanges, and it is only in this point of view that he is contemplated by the political economist.[1] Mr. Macleod clearly adopts the same limits for the science,[2] and he cites, in favour of his view, Bastiat, and the eminent American economist, Professor Perry. No doubt there is a good deal to be said in favour of this opinion ; but as value, after all, is but a development of utility, I have seen reason to take utility rather than value as the subject-matter of economics.

Nevertheless, it is impossible to make many steps in the science without encountering the complex phenomena of value. Two or three men cannot co-operate or traffic in any way without some exchange of services, if not of concrete merchandise. The notion of value must at once arise. Mill, indeed, was of opinion that the subject of value could be conveniently deferred to the third book of his treatise, following the two first books, which treat respectively of Production and Distribution, though he allows that some small portions of the theory of value are antici-

[1] *Introductory Lectures*, p. 4. 1st ed. p. 15 ; 4th ed. 1855.
[2] *Economics for Beginners*, 1878,

pated in treating of the value of labour and land. In opposition to this view it may be safely said that the whole subject of the distribution of wealth is nothing but a result of the theory of value. Wages, profit, interest, rent, are but the prices at which the owners of diverse kinds of property are able to sell them. Theoretically, then, we cannot advance a step towards a solution of the intricate industrial relations of society without first solving that intricate relation, value. There may be a certain convenience in postponing the subject until a reader or student has acquired some familiarity with the results of the theory. On this ground I deferred the subject of exchange or value to the latter part of my *Primer of Political Economy*;[1] but it cannot be too clearly understood that this is not the logical order, and not the one which should be adopted in a great treatise like that of Mill. Ricardo was more nearly correct, for he makes value the subject of his very first chapter. . . .

Ambiguity of the Term Value

Perhaps the greatest difficulty of the science of economics lies in the ambiguity of its most important term, value. Every question in economics hinges on value, though it may not be wholly concerned with value. The notion of value is to our science what that of energy is to mechanics. But, unfortunately, there is hardly any writer who has clearly laid down the meaning which he attributes to this word and then adhered to this meaning. Of Adam Smith's ideas on the point I treat elsewhere. But Senior has well pointed out[2] that Ricardo, Malthus, and M'Culloch, equally with Smith, fall into equivocations. Ricardo, according to Senior, appears to set out by admitting Smith's definition of value in exchange, but in the greater part of his *Principles of Political Economy* he uses the word as

[1] 2nd ed. 1878, chap. xi. pp. 95-103.

[2] Whately's *Elements of Logic*, Appendix I., on Ambiguous Terms, ed. 1853, p. 231.

synonymous with cost. By this one ambiguity, according to Senior, he has rendered his great work a long enigma.

Hardly any English writer has borne in mind steadily and clearly that value only indicates the relation or ratio of quantities which pass in an act of exchange. The reader must begin by dismissing from his mind the idea that value is a thing—that is to say, a concrete thing given for another thing. If a gold watch is exchanged for twenty pounds, the value of the watch is not twenty pounds. This sum of money is not value itself; it only consists of pieces of metal which possess value, and the value is the circumstance of exchanging in a certain ratio for a watch or other article. Value is a property, or a quality, or a circumstance, or a relation, not a thing. It is abstract, not concrete.

I have elsewhere[1] criticised Mill for saying[2] that the value of a thing means the quantity of some other thing, or of things in general, which it exchanges for. But I find that Say adopted deliberately a definition, nearly to the same effect, saying that value is the quantity of any other thing which can be obtained at the moment it is desired in exchange for the thing offered.[3] But surely the force of the logical copula *is* here equates value to a quantity of things. This, in any case, is better than Mill's expressions which equate value to the concrete thing itself. Say appears, indeed, to have treated the matter more accurately in the earlier editions of his *Traité*, where he said that the measure of value was the value of another product. But in his fourth edition he rejects this expression as inexact. Various critics, even unjust ones, had led him to see the error. He prefers to say, "La mesure de la valeur est *la quantité* d'un autre produit." But it is one thing to say in a footnote that the measure of value is a quantity, and another thing to say in the text above that value itself is a quantity of some other product. We can-

[1] *Theory*, 3rd ed. p. 77; 1st ed. p. 81.

[2] *Principles*, 1886, 9th ed. vol. i. p. 588.

[3] "Toujours est-il vrai qu'une valeur incontestable est *la quantité de toute autre chose qu'on peut obtenir, du moment qu'on le désire, en échange de la chose dont on veut se défaire.*"—*Traité*, tom. ii. p. 4, 4me ed. 1819.

not say that a surveyor's steel chain is a mile, but we can say that it is the measure of a mile.

It may seem superfluous and tedious to dwell upon such niceties of expression, but whether or not tedious it is certainly not superfluous. We must leave no confusion behind us. We must, at least, make up our mind whether we are speaking of abstract or concrete ideas. As well say that reflection of light is a mirror, or yellowness is gold, as that value is a lump of matter.

The only way in which we can really avoid ambiguity is to translate the word value mentally or otherwise into the real facts indicated by it. As Le Trosne long since correctly remarked,[1] it is a *rapport d'échange*, a ratio of exchange, which is at the bottom of the matter, or is rather the whole matter. The value of a watch is not another watch, nor any number of gold sovereigns. It means the ratio 1 to 10 or 1 to 20, as the case may be, in which the watch exchanges for gold sovereigns. Value is a numerical ratio, an abstract number. . . .

Gold may certainly be a measure of value, for if an ounce exchanges for one quarter of corn this year and two quarters next there is no doubt that, relatively to gold, the value of corn has fallen. But we cannot say that the value of the corn is the gold. The gold is a solid metal, the value is an abstract circumstance about the corn.

Banfield, in his *Lectures on the Organisation of Industry*, 1845, p. 16, remarks that :—

"A limitation of the scope of the science of political economy to the study of the means of producing some particular kinds of riches has been induced by neglect of the important fact that all productions stand in a fixed economical relation to each other. The economical value of a thing is no more inherent in the object itself than is the attribute of property, which is the foundation of all wealth. Gold and silver are not wealth to the man who has no bread, nor does any man

[1] *De l'Ordre Social*, 1777, p. 497. Guillaumin's *Collection*, ii. p. 889.

sacrifice the means of stilling hunger or of clothing himself for pictures, Italian operas, or dancing. And yet no one will deny that the fine arts are elements of wealth, and that those who have it in their power do well to indulge their love for them.[1] The works of the artist, however, like those of the manufacturer and of the agriculturist, receive their value from the relative demand for and supply of each, which arise in a fixed order, as I have pointed out. The chain that may develop itself of our wants and power of supplying them is yet unmeasured, because no nation has as yet reached the limit of the economy of power. Few have advanced so far as to banish suffering from the majority of the people.

"We have, therefore, no scientific ground for stopping short at any stage of production, or of the enjoyment which it admits of. We have no right to limit our ideas of wealth to the conceptions of our own times, any more than any preceding age would have been right in so doing. . . . The value that one species of production receives from its relations to the rest is based upon the gradations of the wants of man, and on these gradations, as I have said, the science of political economy is founded."

On p. 17, after giving examples of fluctuations in value by war, disturbance, fashion, he observes :—

"In all these changes it is evidently not any intrinsic qualities in the objects sought or refused, but the utility which the consumer expects to derive from them that gives to each its value. In a besieged town diamonds are willingly exchanged for bread, which at other times would be sought with the sacrifice of enormous quantities of corn."

[1] "La valeur, encore une fois, est l'expression du rapport qui existe entre les besoins de l'homme et les choses." —Rossi, *Cours d'Économie Politique*, leçon iv. (note by Banfield), 1850, p. 75 *loc. cit.*

CHAPTER IX

Supply and Demand

Before we undertake to consider the Laws of Supply and Demand, which form the empirical basis of the theory of value, it is necessary that we should carefully investigate the meanings which have been or may be applied to the terms Supply and Demand. The ideas involved vary in complexity according to the circumstances of the case, but they are always more complex than some economists have supposed. There is, in the first place, confusion between the commodities which are on supply or demand and the mental state of those who own them. Malthus devoted a whole section of his *Principles*[1] to elucidate this subject, and he says that "demand may be defined to be the will combined with the power to purchase, and supply the production of commodities combined with the intention to sell them." He proceeds, however, both in the *Principles* and his book of *Definitions*,[2] to distinguish between *extent* of demand or supply, meaning the quantity of commodities demanded or supplied, and the *intensity* of demand, meaning the sacrifice which the demanders are able and willing to make in order to satisfy their wants.

The subject has since been discussed by all the leading economists. Mill remarks[3] that these phrases fail to satisfy any one who requires clear ideas and a perfectly precise expression of them. Some confusion, he thinks, must always

[1] *Principles*, 1820, chap. ii. § 2, p. 64, etc.

[2] *Definitions*, 1827, Nos. 49-55.

[3] *Principles*, 1874, Book III. chap. ii. § 3.

attach to a phrase so inappropriate as that of a ratio between two things not of the same denomination. What ratio can there be between a quantity and a desire, or even a desire combined with a power? A ratio between demand and supply is only intelligible if by demand we mean the quantity demanded, and if the ratio intended is that between the quantity demanded and the quantity supplied.

Cairnes has elaborately criticised these and other remarks of Mill, holding that it is surely not correct to describe supply simply as a quantity.[1] A mere quantity of goods does not constitute supply until it is offered for sale—that is to say, until the quantity is connected with a mental feeling. It is impossible, however, to read the discussion of this subject by Cairnes, not to mention those by Bagehot,[2] Thornton,[3] and others, without feeling that we must recognise in the fullest way both the commodities and the mental feelings, without, of course, running into the confusion disclaimed by Mill between the thing and the feeling. We must, in short, thoroughly analyse the conditions of utility relating to the question. It is indeed remarkable that the late Professor Cairnes, after criticising and rejecting my view of utility as the basis of value in the first chapter of his valuable *Principles*, should find himself in the very next chapter obliged to recede to mental feelings as the governing forces of value. What can the mental feelings be except feelings of utility?

The simplest case which can arise is that of a contemplated barter of two objects, say of the concertina and violin instanced in p. 6. Of course it is impossible to confuse a violin with the desire for a violin. The desire in any case is in the person, not in the violin, and in the person it is only a nervous state implying a certain degree of pleasure derived from the possession of the violin. But it is obvious that, as a general rule, there must be

[1] Cairnes, 1st ed. 1874, *Principles*, p. 22; also p. 113, *ibid.*

[2] *Economic Studies*, 1880, pp. 104-8, and Appendix A.

[3] *On Labour*, 1869, Book II. chap. i. p. 43.

four forces of desire involved in the question—the desire of Julia for her concertina, her desire for a violin, Cecilia's desire for a concertina, and her desire for her violin. Exchange will or will not take place, according as the desire for the new article exceeds in both cases the desire for the old one to be parted with.

The real difficulty of the matter, however, arises when we endeavour to pass from this simple case to the complex conditions of a large market. A market, as is elsewhere explained (*Theory*, 3rd ed., pp. 84-88), consists of a great many holders of a certain kind of commodity, and of many who desire to hold or use the same, and are more or less perfectly acquainted with the holders and other demanders. Both the holders and desirers, representing supply and demand, hold and desire with different degrees of mental feeling, arising either from different degrees of want of the commodity in question or different estimates of what will be wanted or supplied by other people in the future. Their willingness to exchange will also, of course, be affected by the prevailing ratio of exchange; and this ratio, although it may vary from time to time, must always be the same as regards the same commodity at any one moment. The constitution of a market thus resolves itself not into any one statement of demand and supply, but a statement of what would be demanded and supplied at every conceivable ratio of exchange.

Take the corn-market of some isolated town. We can imagine, on the one hand, so large a price being offered, say 100s. per quarter, that every single holder of corn would be glad to part with his stock at that price. The supply is simply the physically existing stock, because the mental feelings of desire for 100s. per quarter entirely overpowers the desire for holding corn. If 80s. per quarter were the highest price offered, it is possible that most would sell, but some might hold. At the other end of the scale, if only 30s. per quarter were offered, it is probable that no holder would consent to part with his commodity at so low a rate.

The Laws of Supply and Demand

It seems to have been supposed by some economists, notably by the late Mr. W. T. Thornton,[1] that there are certain fixed or natural laws regulating the values of things, and known as the Laws of Supply and Demand. In some often-quoted passages he shows that these supposed laws break down when applied to the cases of Dutch auctions or other peculiar sales. His remarks, however, and those of many other writers, are based upon a misapprehension of the nature of these so-called laws. They are in no sense ultimate, natural, or invariable laws, but are only expressions of the general course of phenomena exhibited in commerce when there are many buyers and many sellers. They are laws of aggregate supply and demand; but an aggregate is a sum of separate quantities, so that the natural law in order to be manifested in the aggregate must be manifested in the elementary quantities. The total demand for a certain commodity among a certain population, may be described as the product of the number of persons into the average quantity demanded by each. This statement, however, presents a false simplification, because we can only ascertain the average demand by dividing the number of the population into the total demand. It comes, then, to this, that the total demand is the sum of individual demands, each of which may be influenced by divers causes. The quantity of sugar, for instance, consumed in Great Britain depends partly upon the number of persons living in the country, but equally upon the amount of money which each person can spare for buying sugar, the special taste which he has in that respect, or his consumption of articles in the production of which sugar is used. When sugar is cheapened larger quantities in the whole will be demanded; this will arise from some who have already used it using more, from some who did not use any beginning to use it; there will be some, however,

[1] *On Labour*, 2nd ed. pp. 62-82, especially p. 82.

especially rich people, who already used as much as they cared for, and who will not alter their habits. Thus the general result is a matter of summing up infinite details, the question being often complicated by the fact that the same commodity is used for many different purposes. The quantity of commodity demanded at a price is, in fact, a function of the utmost complication.

It is obvious, however, that one main element of the matter must be the comparative numbers of persons of different rates of income living in the country. The general rule that as a commodity is cheapened its demand is increased, depends partly upon the fact that those using it use more of it when they can get it cheaper. But it also depends upon the fact that the poorer classes of society are far more numerous than the richer, so that the cheapening brings it within a constantly expanding area of buyers. Joseph Garnier[1] has illustrated this point with a diagram representing the population in the form of a pyramid, of which the millionaires form the apex and the paupers the broad base. Statistical facts,[2] however, show that the curve representing the relative frequency of incomes is not a straight line, but some kind of possibly hyperbolic curve. . . .

There seems, however, to be little use in affecting mathematical accuracy in these matters. Because, even if we learn the composition of the people accurately, we cannot in like manner determine their individual tastes. Thus the law of demand must be ascertained by direct observation or trial; it must remain a purely empirical law. Statistical facts sufficiently confirm what we should otherwise anticipate, that the more cheaply a commodity can be purchased the larger are the quantities consumed by a population. As price falls demand rises; as price rises demand falls; such is the empirical law of demand. But these statements will be subject to exceptions and qualifications elsewhere explained.

[1] *Traité d'Économie Politique*, 1863, 5e ed. p. 594.

[2] *Income Tax Report*, German paper [?], "Various modes of estimating income."

The Law of Indifference

Before we can advance at all in the theory of value, it is necessary to notice the fundamental importance of a principle which I have proposed to call the Law of Indifference. This law is to the effect that like may serve in place of like. It is in practical science the analogue of the Law of Substitution, which has been fully expounded in my *Principles of Science.* If two things are undistinguishable, as, for instance, two sovereigns of equal weight struck from the same dies, it matters not which we select. If two sacks of flour appear to be of exactly the same quality and are of equal contents, a purchaser will find it a matter of indifference which he purchases. The result at once follows that a similar commodity cannot be exchanged at the same place and time at two different ratios of exchange. As Scrope has expressed the principle, it is certain that there cannot be two prices or values for goods of the same quality in the same market and at the same time, since no seller will take less from one buyer than he can get from another, and no buyer will knowingly give more to one seller than another will take for the same article.[1] It would be nothing less than irrational for a person possessing two really similar things, or what were believed to be really similar, to offer to sell one cheaper than the other. It does not, of course, follow that the price of the two together would be double that of one; according to theory, the price of two should generally be more than double that of one, but in retail trade it might be less, from reasons to be afterwards considered. But this in no way affects the price of one compared with the price of the like.

Commodities differ very much as to the degree in which they admit of similarity and substitution. In the case of horses, for instance, each animal has to be judged on its own merits. Not only has the age, size, training, and condition of

[1] 1st ed. 1833, p. 171; 2nd ed. 1873, p. 135.

each horse to be separately considered, but the form and breed and distinct character of each horse has to be judged. Any slight accident or illness may seriously alter the value of the animal. It follows that there is no such thing as a market price for horses generally; they vary in value from one pound, which an old horse is worth at the knacker's yard, up to a thousand or ten thousand guineas, or more, which the winner of the Derby fetches. The average prices of certain classes of horses at a particular time may perhaps be stated in a rough way: thus omnibus horses are bought at an average of perhaps twenty pounds each; good carriage horses are worth more, nearly fifty or sixty pounds; good hunters are still more valuable; but then the horses are judged and classified before any attempt is made at assigning a general price. All other animals, including slaves in former times, are subject to the same remarks about price.

Among other articles of uncertain value may be mentioned original paintings, unique vases or other works of art, copies of rare books in better or worse condition, houses and estates of varying beauty and convenience. . . .

This law of indifference, in fact, is but another name for the principle of competition which underlies the whole mechanism of society. So far as there is anything like a uniform rate of wages in any trade, it arises from the fact that one man's labour may serve in place of another man's. Under the subject of wages we shall have to consider how far there is uniformity in the abilities of labourers. As a general rule, the lower the class of labour the greater the similarity; in the highest ranks of labour, those of the barrister, engineer, author, etc. little or no comparison is possible.

Adam Smith on Value

It will aid in clearing our ideas of value if we analyse the celebrated passage of the *Wealth of Nations*, in which Adam

Smith distinguishes between value in use and value in exchange. It is from this passage that Ricardo started in his famous but wrong-headed treatise, and there is hardly any economist of importance who has not quoted, if not criticised, these sentences. "The word value, it is to be observed," says Smith,[1] "has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that object conveys. The one may be called 'value in use'; the other 'value in exchange.' The things which have the greatest value in use have frequently little or no value in exchange; and, on the contrary, those which have the greatest value in exchange have frequently little or no value in use. Nothing is more useful than water, but it will purchase scarce anything; scarce anything can be had in exchange for it. A diamond, on the contrary, has scarce any value in use; but a great quantity of other goods may frequently be had in exchange for it."

At first sight and according to first thoughts nothing would seem to be clearer and sounder than the doctrine he puts forth. Value means strength or predominating power, and power in use is contrasted to power in exchange in a way which seems to be entirely borne out by well-known facts. Economists, as a general rule, have acquiesced in this view without further inquiry; hence most of their subsequent perplexities in the theory of value. But a little analysis leads to very different ideas. "Nothing is more useful than water," he says, "but it will purchase scarce anything." Does he mean the water which we actually need to drink, or that which we do not need? Naturally, if a person possesses as much water as can be useful to him, he will pay scarce anything for more; but in this case can we say that the more water is useful? In the wilderness a cup of water may save life, it is then highly useful; but in such circumstances it will purchase a great deal—in fact, almost all the man's other possessions. On the field of battle Sir

[1] *Wealth of Nations*, Book I. chap. iv. Rogers's ed. 1869, p. 29

Philip Sidney is said to have refused a cup of water on the ground that a common soldier needed it more; had this water no value?

Then, again, as regards a diamond, it is not correct to say that, though a great quantity of other goods may frequently be had in exchange for it, the diamond has scarce any value in use. There is confusion of ideas here between use in the common everyday meaning and utility in the economic sense. No one would call a diamond ring a very useful thing, but it is generally considered very ornamental, and it, therefore, has utility. If a rich man pays a hundred or a thousand pounds for a diamond ornament for his wife, there must be an adequate motive for spending so much money. The desire for a beautiful and distinguished ornament constitutes the utility, and this rests very much upon the extreme scarcity of fine large diamonds. Could they be manufactured in any desired quantity, people would soon cease to desire more as urgently as they now do. "The more," then, would cease to have any high utility, and those already possessed and used would cease to have much purchasing power.

That Adam Smith would be quite likely to employ the word useful, as supposed above, may be gathered from the chapter on Rent,[1] where he says of gold and silver, "The demand for those metals arises partly from their utility, and partly from their beauty." From what follows it clearly appears that by utility he means usefulness for making pots and pans and common articles. Gold and silver would be admirable for such purposes if they were abundant enough, but being scarce they have the peculiar beauty of being decisive marks of opulence. The whole paragraph now referred to is clear enough in meaning, because it refers to very obvious ideas, but those ideas are not analysed as closely as is requisite for a theory of value.

[1] *Wealth of Nations*, Bk. I. chap. xi. part ii. Rogers's ed. i. p. 182. Wakefield's ed. 1835-39, ii. p. 46.

Mill's Ideas of Value

Although it is needful in this book to abstain from controversy as much as possible, it is yet necessary to point out that Mill had no firm and clear idea of the theory of value. He vacillated between the two opinions that value depends upon the cost of production, and that it is governed by the laws of supply and demand. There is no necessary inconsistency between these opinions indeed, for it is obvious that value, though varying according to the laws of supply and demand, may be governed ultimately by cost of production, which may regulate the possible extent of supply, if not of demand. This, in fact, is the way in which readers have probably understood Mill's remarks. When discussing the subject with well-read economists, I have on several occasions found them to be much surprised at my assertion that Mill believed value to be governed in certain cases by cost of production without the intervention of the laws of supply and demand. It becomes necessary, therefore, to examine Mill's statements.

The general features of the Ricardo-Mill theory of value are probably known to most readers. Things are said to have a temporary or *market value*, depending on supply and demand, and also a *natural value*. In the case of things incapable of indefinite production, the natural value is a scarcity or monopoly value. But every commodity of which the supply can be indefinitely increased by labour and capital exchanges for other things proportionally to the cost necessary for producing and bringing to market the most costly portion of the supply necessary. In these cases the natural value is synonymous with the cost value.

Such being a brief abstract of Mill's summary of the theory of value,[1] it might well seem obvious that, as it is those things of which the supply can be indefinitely increased which exchange at cost value, the change of value is due to the variation

[1] *Principles*, 1886, 9th ed. vol. i. Book III. chap. vi. § 1, pars. 3 and 4, p. 588.

of supply. This view of the matter is countenanced by expressions in other parts of the *Principles*. . . .

Turning, however, to the second volume of the *Principles*[1] we find a dubious statement. "Since cost of production here fails us, we must revert to a law of value anterior to cost of production, and more fundamental, the law of supply and demand." It is difficult to understand what *anterior* and *more fundamental* mean, unless they mean that the law of supply and demand applies more generally and at the base of the matter. It is truly difficult to reconcile this passage with one which occurs in an earlier chapter of the same book.[2] Mill says: "It is, therefore, strictly correct to say that the value of things which can be increased in quantity at pleasure does not depend (except accidentally, and during the time necessary for production to adjust itself) upon demand and supply; on the contrary, demand and supply depend upon it. There is a demand for a certain quantity of the commodity at its natural or cost value, and to that the supply in the long run endeavours to conform." It is only accidentally, then, that the laws of supply and demand govern the values of the most extensive and important classes of commodities. When these are at the natural value they are not so governed. Perhaps one might as reasonably say that the horizontality of the surface of water does not depend upon the law of gravity except accidentally, and during the time necessary for the fluctuations to subside; on the contrary, the law of gravity depends upon the horizontality of the water. Apart from this absurdity, the objection might be made that, as water never is absolutely undisturbed and horizontal, so value never coincides except momentarily and accidentally with the cost values. Mill has used the simile of water here suggested, saying in his celebrated article in the *Fortnightly Review*:[3] "This point of exact equilibrium may be

[1] 1886, 9th ed. vol. ii. p. 103; Book III. chap. xvi. § 1, fifth paragraph.

[2] *Ibid.* vol. i. Book III. chap. iii. § 2, third paragraph p. 560.

[3] *Dissertations and Discussions*, vol. iv. p. 30. *Fortnightly Review*, May 1869, vol. v. New Series, p. 508.

as momentary, but is nevertheless as real, as the level of the sea."

In this article Mill quotes (p. 28) the passage from his own *Principles* already partly considered, and then enters into a long discussion of it in connection with Thornton's criticism, to be elsewhere referred to. I can here notice, however, only two passages, one from the beginning and one from the end of the discussion. In p. 28 Mill says: "There is one sense in which this proposition of Mr. Thornton would be assented to by all economists; they none of them consider supply and demand to be the *ultimate* regulators of value. That character, they hold, belongs to cost of production, always supposing the commodity to be a product of labour. . . ." Then again, in p. 41, he speaks of Mr. Thornton's improvements in the theory of price as being minute and "unimportant, as they must necessarily be in the common case in which supply and demand are but disturbing causes, and cost of production the real law of the phenomenon." It appears beyond all question, then, that Mill actually believed cost values to be determined by cost of production independently of the laws of supply and demand, and he attributes this extraordinary opinion to all economists. Supply and demand are *disturbing causes*. I have found such an opinion abjured by every economist with whom I have discussed the subject, and even Professor Fawcett[1] fails to reproduce the paradox when treating of the price of manufactured commodities. Cairnes's views of the theory of normal (= cost) values are more complex, but probably more correct. From what he says in p. 41 of his *Some Principles*, etc. I should infer that he believed cost of production to operate *through*, not *beside*, the laws of supply and demand. "Where the price of a commodity," he says, "is above the normal level, and where, consequently, the producers are reaping more than average rewards, more producers will be drawn to that employment, and the supply of the commodity will be increased. But

[1] *Manual of Political Economy*, 1863, Book III. chap. iv.

the increase of supply, by the competition for sales, will tend to lower price, and thus to bring it down towards the normal level." This is a reasonable doctrine, but it is not that of Mill.

CHAPTER XIII

Production

HAVING ascertained in the preceding chapters of this work what it is which constitutes wealth—what is needed to satisfy human needs in the most complete way—we must now inquire how such wealth may be acquired with the greatest ease. The problem so far has been, given the wants of a population, how shall we best utilise existing wealth? The problem before us is, given certain labourers with a definite environment, how shall their labour be employed so as to produce the greatest quantity of commodities? It is obvious that the two problems, though we are obliged to separate them mentally, are not independent. In determining what we shall do best to produce, we must have regard both to the conditions of utilisation and production. There may be some articles, for instance iridium and palladium, which would be very useful indeed if we could produce them cheaply. There may be other articles which are not the best for their purpose, but which we nevertheless use because they can be had cheaply. Corduroy roads, for instance, are made of timber in the United States, Australia, and in other places where stone happens to be deficient. But we must afterwards endeavour to disentangle the complex relations of production and utilisation. We must now treat production as far as possible separately, remembering that in either case our purpose is to maximise the balance of utility over disutility, of pleasure over pain; or, in other words, to obtain the greatest hedonic result at the cost of the least amount of painful labour.

Production is one of the very few happily chosen terms which the economist possesses. Etymologically the term implies that we draw wealth forth, and this is the correct idea of production. Labour creates nothing, but merely draws from the crust of the globe the materials which are to be utilised. It is, with but slight exception, only the natural properties of the matter which allow it to be utilised. As Cantillon[1] so exactly expressed the truth in the opening sentence of his essay, "The earth is the source or matter whence we draw riches; the labour of men is the form which produces it; and wealth itself is nothing else but the nutriment, the conveniences, and the agreeables of life." Cantillon goes on to explain that while the earth produces grass, roots, grain, flax, cotton, hemp, shrubs and trees of various kinds, with their fruit, bark, and leaves of diverse sorts, also mines and minerals, it is the labour of man which gives the form of riches to all these. Similarly the rivers furnish fish for the sustenance of men and several other things for their enjoyment, but it is the labour of man which draws them forth.

Cantillon correctly points out that we must in production find certain appropriate matter, and we must then by labour mould and suit it to our wants. We speak, indeed, familiarly of *creating wealth*, but we must always understand this expression to mean only *creating utility*. There is no law better established in physics than that man can neither create nor annihilate matter. As Francis Bacon so well said,[2] "Man can himself do nothing else than move natural bodies to and from each other; nature working within accomplishes the rest."

All the operations of nature and art, as Destutt de Tracy has so admirably explained,[3] reduce themselves to transmutations of form and of place. Not only do we never create anything, but it is even impossible to conceive what creation or destruc-

[1] *Essai sur la Nature du Commerce en général*, 1755.

[2] *Novum Organum*, 1620, Book I. 4th Aphorism.

[3] See p. 105 *post*.

tion would be. Throughout all antiquity has been admitted the axiom that nothing comes from nothing or can be reduced to nothing. Our labour, then, only appropriates things, and by changes of form and place renders them useful for the satisfaction of our wants. Whatever our labour may be it is fruitless if it does not result in utility; but if it does so result it is productive.[1] The same scientific truth is satisfactorily stated by Say,[2] and it may also be found well expounded by Mill[3] and some other economists.

Since most of these economists wrote, the truth of their remarks has been extended by the establishment of the principle of the conservation of energy. Not only of matter, but of energy we may say that it can neither be created nor annihilated. All change, then, is apparent rather than real change; motion, visible or invisible, is the sole real change, and that changes not, but is itself a constant change. Without, however, pursuing the physical aspects of this subject, we may easily see that the properly directed muscular energy of his body is almost the only agent of production which man can apply. He might conceivably make use of the breath of his nostrils, the moisture of his skin, or the warmth of his body, but the cases in which he could thus assist production are not worth further notice. Practically, man does nothing but pull, push, lift, press, carry, or otherwise mechanically force things into new forms or new places. He pushes a spade into the ground, pulls a root out of it; he lifts a load of firewood and carries it to the fire; he presses on a branch of a tree and breaks it; and so forth. But though man, in respect of his muscular labour, is a mere beast of burden, yet he has an intellect which, rightly used, makes him supreme. There is no necessary proportion between human labour and its results. A boulder resting on the mountain side may be upset by the touch of a finger. Rolling and crashing

[1] *Élémens*, Paris, 1823, pp. 81, 82. Quoted in M'Culloch's *Literature*, 1045, p. 22.

[2] *Catechisme*, 4th ed. 1834, p. 40; *Cours*, vol. i. p. 85.

[3] *Principles*, 1886, 9th ed. vol. i. Book I. chap. i. § 2, 1st paragraph.

down, it develops energy limited only by its own weight and the height of the mountain. So the touch of the finger on a small trigger may discharge the largest piece of ordnance and hurl a projectile with inconceivable speed and force. Science makes muscular energy the key to the vast stores of material energy existing in the things around us. . . .

CHAPTER XIV

Labour

The main element of production and the chief source of wealth is undoubtedly labour. Whether or not labour always needs some material to be exerted upon, we have left somewhat undecided. But it is quite clear that all satisfaction of wants requires the expenditure of some effort—usually painful effort. Now the economic problem has two sides: while we strive to maximise utility we must with equal motive strive to minimise the price given for it. Thus labour forms a subject of almost equal importance with utility; it constitutes the main mass of disutility, and it is really the algebraic sum of utility and disutility which we should endeavour to maximise.

In another work[1] I have attempted to show the mistake of supposing that we can by laying down a single definition solve the perplexities of a complicated subject. People want to know exactly, What is money? or what is cash? Now money in its vague and wide meaning embraces a great variety of coins, tokens, pieces of metal, pieces of paper with various legal obligations. No single definition can co-ordinate or subordinate so many different things with their relations. I am satisfied that the attempt to treat a complex subject as if it were a simple one is the source of much of the prevalent perplexity and fallacy. A like danger and difficulty meets us when we are called upon to lay down a satisfactory definition of labour.

[1] *Money, etc.*, 1st ed. 1875, chap. xix. p. 248.

Definition of Labour

It is easy to meet with definitions or at least descriptions of the term labour, especially among non-British economists. We need hardly notice the definition of Cicero, who says,[1] "Labor est functio quaedam vel animi vel corporis." If we are thus to make labour include all action of mind or body, it includes all life. As Senior has remarked,[2] the great defect of Adam Smith, and of our English economists in general, is the want of definitions. Senior is not quite correct in adding that "There is, perhaps, no definition of labour by any British economist." When he thus wrote, Malthus's *Definitions in Political Economy* must have been published, and Malthus expressly defines labour as follows:—"The exertions of human beings employed with a view to remuneration. If the term be applied to other exertions, they must be particularly specified."[3] In this proposition, however, the word remuneration is very uncertain in meaning. Does it mean only wages paid by other persons than the labourer, or does it include the benefit which a labourer may gain directly from his own labour? This is a point upon which Mill and some other economists have fallen into difficulties, as we shall presently learn. It is somewhat strange, too, that Malthus should suggest the use of the word in other meanings, provided such meanings be particularly specified.

It is plain that labour must consist of some energy or action of the body or mind, but it does not follow that every kind of exertion is to be treated in economics. Say has restricted the term by the following concise definition:[4]—"Travail; action suivie, dirigée vers un but." The action here contemplated excludes mere play and sport, which carries its whole purpose with it. There must be some extrinsic benefit to be purchased by the action, which moreover must be continued, consistent

[1] *Quaestiones Tusculanae*, ii. 15.

[2] Whately's *Logic*, 1853, Appendix I., art. 3, "Labour."

[3] Definition No. 13. Cazenove's edition, 1853, p. 9.

[4] *Traité*, 2nd ed. tom. ii. p. 476.

action, directed steadily to the same end. This correctly describes the great mass of economic labour which is directed simply to the earning of wages and the producing of the commodities which eventually constitute wages. But there is nothing in this definition to exclude the long-continued exertions of a boat's crew training for a race, the steady practice of a company of cricketers, or even the regular constitutional walk of the student who values his good health. Moreover, no considerable continuity of labour is requisite to bring it under economic laws. A poor man who gathers groundsell in the morning and sells it about the streets the same afternoon may complete the circle of economic action within twenty-four hours. Say tries to evade these difficulties, saying, "J'appelle travail, l'action suivie à laquelle on se livre pour exécuter une des opérations de l'industrie, ou seulement une partie de ces opérations."[1] Here the burden of logical difficulty is thrown upon the obscure term *industrie*.

Senior has himself given a definition of the term in question, saying, "Labour is the voluntary exertion of bodily or mental faculties for the purpose of production."[2] Here the term production is made the scapegoat. Does production include the production of pleasure or prevention of pain in every way? Does it include the training of the cricketer? The word "voluntary," again, excludes the forced labour of slaves and prisoners, not to speak of draught animals. Yet many economic questions arise about the productiveness of the exertions of such agents. M'Culloch clearly fell into grave error when he said that labour consisted of "any sort of action or operation, whether performed by the lower animals, machinery, or natural agents, that tends to bring about any desirable result."[3] To mix

[1] *Traité*, liv. i. chap. vii., *ad init.* p. 52. I cannot find in my edition the definition which Senior in Whately's *Logic* attributes to Storch. [See Storch, *Cours d'Économie Politique*, 1815, p. 181; p. 150, ed. 1823; liv. i. ch. iv. "Le travail est l'action des facultés humaines, dirigée vers un but utile."]

[2] *Political Economy*, p. 57.

[3] M'Culloch's edition of Smith's *Wealth of Nations*, 1863, Note I. vol. ii. pp. 74-75.

up the insentient action of machinery with the sentient action of animals is obviously absurd, because a machine feels neither pain nor pleasure. We must at any rate confine ourselves to the sphere of feeling. But it is not quite so plain that the pleasures and pains of the lower animals can always be excluded from our hedonic calculus. . . .

Some later economists consider pain or disagreeableness to be a necessary characteristic of labour, and probably with correctness. Thus Mill defines labour as "muscular or nervous action, including all feelings of a disagreeable kind, all bodily inconvenience or mental annoyance connected with the employment of one's thoughts or muscles, or both, in a particular occupation."[1] He seems to intend that only what is disagreeable, inconvenient, or annoying, shall be included. Professor Hearn also says that such effort as the term labour seems to imply is "more or less troublesome."[2] It may be added that in all the dictionaries pain seems to be regarded as a necessary constituent of labour.

Nevertheless it cannot possibly be said that all economic labour is simple pain. Beyond doubt a workman in good health and spirits, and fresh from a good night's rest, actually enjoys the customary exertion of his morning task. To a man brought up in the steady round of daily trade and labour inactivity soon becomes tedious. Happiness has been defined as the reflex of unimpeded energy,[3] and whatever exactly this may mean, there can be no doubt that any considerable degree of pleasure can only be attained by setting up some end to be worked for and then working. The real solution of the difficulty seems to be this—that, however agreeable labour may be when the muscles are recruited and the nerves unstrained, the hedonic condition is always changed as the labour proceeds. As we shall see, continued labour grows more and more painful, and when long continued becomes almost intolerable. However

[1] *Political Economy*, 1886, 9th ed. vol. i. Book I. ch. i. § 1. 2nd paragraph, p. 29.

[2] *Plutology*, 1863, p. 24.

[3] Hamilton, *Lectures on Metaphysics*, 1860, ii. p. 440.

pleasurable the beginning, the pleasure merges into pain. Now, when we are engaged in mere sport, devoid of any conscious perception of future good or evil, exertion will not continue beyond the point when present pain and pleasure are balanced. No motive can exist for further action. But when we have any future utility in view the case is different. The mind of the labourer balances present pain against future good, so that the labour before it is terminated becomes purely painful. Now the problems and theorems of economics always turn upon the point where equality or equilibrium is attained; when labour is itself pleasurable no question can arise about its continuance. There is the double gain—the pleasure of the labour itself, and the pleasure of gaining its produce. No complicated calculus is needed where all is happy and certain. It is on this ground that we may probably dismiss from the economic science all sports and other exertions to which may be applied the maxim —leave off as soon as you feel inclined. But it is far otherwise with that advanced point of economic labour when the question arises whether more labour will be repaid by the probability of future good.

I am by no means sure that it is possible to embody in a single definition the view here put forward. If obliged to attempt a definition I should say that it includes all exertion of body $\frac{\text{and}}{\text{or}}$ mind eventually becoming painful if prolonged, and not wholly undertaken for the sake of immediate pleasure. This proposition plainly includes all painful exertion which we undergo in order to gain future pleasures or to ward off pains, in such a way as to leave a probable hedonic balance in our favour; but it does not exclude exertion which, even at the time of exertion, is producing such a balance. . . .

CHAPTER XV

Production in Time

Work at the Best Time

Little consideration will be needed to show how much may be done to save labour by applying it at the right time. In some industries it is all a question of time and tide. The miller works while the breeze blows or the beck is full. The fisherman casts his nets while the shoals of fish are in reach. The Thames bargeman unlooses his barge as the tide begins to ebb or flow according as he wishes to go down or up the river, and with the exception of a little steering the tide does all the rest. In agriculture the main operations must be done at certain seasons, or else the labour is in vain. Natural conditions determine the seed time and the harvest. But the skill of the farmer is much exercised in regulating the rest of the work so that there shall always, if possible, be work for the labourers to do under the most favourable conditions as far as possible. Ploughing and tilling are done when the ground is vacant and in suitable state, especially in the autumn. Manure is drawn in winter when the fields are frozen hard; hedges are trimmed in early spring; roads are mended, ditches cleared, new ground reclaimed during any intervals of spare time. Full details of seasonable work were given in Arthur Young's *Farmers' Calendar*—a book of which many editions were printed.[1]

[1] *The Farmers' Calendar: containing the Business necessary to be performed on various Kinds of Farms during every Month of the Year.* Tenth edition. 1815. 8vo.

In Norway a natural arrangement of labour arises from the severity of the winter. But the frost, which puts a stop to all agricultural operations, bridges the rivers and lakes, hardens the ground, and fills up the inequalities of the ground with deep snow. These are just the conditions which facilitate the labour of the lumberer, who, after cutting the timber, drags it down the mountain sides with the aid of horses and deposits it by the river side, ready to be carried down to the sea by the spring floods.

The tendency of mechanical improvement, indeed, is to render work independent of the weather and the seasons. The windmill stands still in calm weather, and the miller wastes his time. The steam mill can work day and night throughout the year if needed. In former days the traveller to Ireland had to wait for weeks at Chester or Parkgate on the Dee; now he can cross the Irish sea several times a day in four or six hours. The voyage to Australia, which I made nearly thirty years ago, at the mercy of the winds and waves for ninety days, is now performed by rapid steam vessels in forty days, or little more.

Nevertheless agricultural operations, festivities, and many other things, must always remain at the mercy of the meteorological elements; and science, assisted by the telegraph, can do little more than warn us beforehand of unfavourable weather. . . .

CHAPTER XVI

Production in Place

Work at the Best Place

Obvious as is the advantage, if not the necessity, of working at the best time, it ought to be equally obvious that we must work at the best place if we are to render our labour as productive as possible. In some kinds of industry, indeed, there is no choice about the matter. Mines must be sunk where the ore can be found. Consequently coal must be raised in coal-fields ; iron ore must be got in Cumberland, Middlesborough, Elba, Spain, or the abundant mines of North America ; gold is sought in Australia or California ; nickel in Norway ; sulphur in Sicily; tin in Malacca, and so forth. Many branches of manufacturing industry or trade require a peculiar environment which can only be commanded in particular spots. Bleach and print works need abundant supplies of pure water, access to coal and other materials, and proximity to the districts where the fabrics are manufactured. The production of bay-salt by evaporation depends entirely upon a favourable conjunction of circumstances —a flat shore where level spaces can be converted into evaporating tanks, dry air and fresh breezes, and a hot sun. In former centuries salt used to be made by evaporation of sea-water even in the damp, cloudy climate of England ;[1] but now such industry is confined to the Mediterranean, the Runn of Cutch, or other very suitable places. . . .

[1] Concerning salterns at Hayling Island and other places, see Sir Henry Ellis, *General Introduction to Doomsday Book*, 1833, vol. i. pp. 126-134.

There are many kinds of commodity which depend chiefly on climate. Cane-sugar and cotton can only be grown in tropical or semi-tropical countries. Ivory can come only from lands where elephants flourish. Tea can only be practically cultivated in China, Japan, Assam, and a few other places. Sheep, on the contrary, flourish best in a dry mountainous country, like Spain or Australia; in a tropical climate the wool is of coarser, inferior staple. But some of the difficulties of economics arise with the competition of places and countries which believe that they have each the best facilities for the production of some commodity. Wheat will grow well in England, France, Poland, Russia, North America, Chili, South Australia—wherever, in fact, there is a good temperate climate and a rich arable soil. Iron can be smelted wherever there is good coal and good ore. Obviously there are multitudes of commodities concerning which there is a nice balance of advantages when we come to consider whether they should be produced on the spot or imported from some apparently more favoured spot. It would be anticipating the subjects of later chapters if we were to enter here upon the question of Free Trade and Protection, which can only be adequately discussed when we have advanced to a more complete view of economic relations. From our present point of view it ought surely to be apparent that every part of the world's population should be left at freedom to develop the resources of its *locale* in what seems to be the most profitable kind of industry. This can only be ascertained conclusively by trial, and freedom of trade is freedom of experiment. So admirably did Torrens explain how the territorial division of labour, as he called it, arose out of the variety of circumstances that I cannot abstain from quoting his words :[1]—

"Different soils and climates are adapted to the growth of different productions. One district abounds with luxuriant pasture, another is calculated for tillage; in one country the

[1] *The Economists Refuted; being a reply to Mr. Spence's "Britain Independent of Commerce,"* p. 14. 8vo. London, 1808.

sheep have the finest fleeces, in another country, where these animals have but a coarse and scanty covering, the earth supplies abundant quantities of cotton. Now, in countries the soil and climate of which are thus diversified, if the system of exchanging commodities has become familiar to the minds of the people, a territorial division of labour will be established. The proprietor of arable land will perceive that it is his interest to confine himself to tillage, and exchange his corn for the cattle of his neighbour who possesses pasture grounds. A similar perception of advantages will render the possessor of the pasture grounds desirous of the exchange. Each will co-operate with the agency of nature, and give his fields that peculiar cultivation which best suits the varieties of their soil. By this territorial division of labour the productiveness of human industry will be greatly augmented; the things necessary and desirable to man will receive a wonderful increase."

It need hardly be pointed out at any length that the adaptation of work to place is carried into great detail in the industry of every country. In a well-inhabited country every spot of ground is appropriated to its special purpose: a house and garden here; farms on the richer land; pasture grounds on the higher hills and mountains; hops in one county, apples in another; grouse moors in England; deer forests in Scotland, and so forth *ad infinitum*. Even within the bounds of a moderately-sized farm, too, the specialisation goes on: there are fields best suited to wheat and arable culture; others are in permanent pasture; here is a wet, boggy spot planted with osiers, there broken stony slopes covered with copses.

There is this important difference between conditions of time and conditions of space, that we cannot remove in time, we can only wait and let time elapse. But in regard to place or space we have an option: we can either remain on the spot where we were born and develop its industrial capacities to the best of our foresight and ability, or we may remove to other countries which seem likely to repay our labour more abund-

antly. Few countries are ever completely abandoned; so strong is the love of home that the most cheerless spots—Iceland and the Faroe Islands, the most sterile fjelds of Norway, or the desert plains of Arabia—will probably always have their scattered inhabitants. But the cheap conveyance and freedom of travel of modern times will probably give rise to more and more emigration, tending strongly to develop the sources of wealth.

CHAPTER XVII

Production in Manner

Variety of Occupation

In spite of the advantages of the division of labour, it might well have seemed economical to provide change of occupation during the day's work, so that different sets of muscles and different faculties should be brought into use. The clerk sitting at the desk half the day might be sent on outdoor collecting work during the other half of the working hours. The heavy labour of the ploughman might be intermitted with some lighter occupation. The laundress, too, might give half the day to the lighter work of the seamstress, and the machine-sewer might change about with the hand-sewer. Certainly literary workers would thus vary their labour, giving the freshest part of the morning to the more difficult tasks, and leaving correspondence, reading, arrangement of papers, and all lighter work to the remaining hours of the day. Similarly Oxford and Cambridge students read and attend lectures in the morning, go to the river, walk or practise athletics during the afternoon, and read again in the evening.

Were the health, convenience, and pleasure of the labourer to be chiefly considered, there would no doubt be real advantage in this variety of occupation. But experience seems to show that, except where legislation interferes, as in the half-timers under the Factory Act, all the economic advantages lie on the side of constant, not varied, occupation. So far as I can learn there never is any intentional variation of employment. A

large office has its outdoor clerks and its indoor clerks, but each class keeps to its own work as far as possible. If there is any change it is due to want of sufficient hands or to some necessity on the part of the work, not on that of the worker.

In these matters unconscious experiment, in the form of long-continued general experience, must be the final arbiter, and it decides against variety of occupation. The competition in modern society is so intense that every ordinary person, at any rate, must concentrate his energy on some particular art, and practise it perpetually. Practice makes perfect. Especially must he shun the character of Margites, the jack-of-all-trades,[1] lest he incur the fate of the Italian poet Paolo Borghese, who knew fourteen trades, but was starved to death because he could get employment in none of them.[2] Men of peculiar energy or talent may change from trade to trade, or practise several at the same time; but this is always done under disadvantages and at some risk. The lawyer who engages in literature, the scientific professor who promotes public companies, the physician who exhibits pictures, may not really allow one occupation to interfere with the other, but the world judges by general rules. Now, the rule seems to be that two co-ordinate employments are practically impossible. It is a case of the instability of the homogeneous. The probability is infinitely small that the man's ability will be equal in both directions. There must be precedent advantage in following one rather than the other, and this advantage continually increases by practice.

In many cases, indeed, a change of occupation is necessitated by the variation of the seasons, or other physical conditions. The Norwegian peasant spends the long summer days at the Sœter and in the hay-field. The long winter nights must be occupied in wood-carving, spinning and weaving, in making and mending harness, utensils, etc. There is not only

[1] *πόλλ' ἠπίστατο ἔργα κακῶς δ' ἠπίστατο πάντα.*

[2] Hone's *Table Book*, 1859, vol. iii. p. 123.

no harm but much good in having secondary occupations or healthful pursuits for leisure time. Adam Smith [1] refers to the country weaver who cultivates a small farm, and objected that he must lose a good deal of time in passing from his loom to his field, and from the field to his loom. But if the weaver is to have any leisure time at all, it may be a healthy and agreeable way of losing that time. If the hand-weaver has no leisure time he had better turn, if possible, to some kind of factory employment which does leave a few spare hours in the day. The great success of the Volunteer Force depends upon its supplying a healthful and agreeable occupation for the evenings and the holidays of young men dwelling in towns. *Vice versa*, as much as possible should be done to find manual employment for soldiers when off duty, provided that such employments do not interfere with the due training of the soldier. In fact it comes to this, that every person ought to have one, if not several, amateur pursuits. The Government clerk may perform in amateur orchestras; the bank clerk may lecture on political economy; the judge may privately indulge in modelling busts; the cotton-broker may lead on the organ the musical services of his chapel; but the amateur pursuit must be carefully kept in subordination. Such pursuits must be chosen and regulated with reference to direct good to the person, not the indirect good of economic results. As Roscher has well said, "the best corrective for the one-sidedness produced by a high division of labour consists in the extension and many-sided employment of leisure time." [2] Garden plots. . . .

[1] *Wealth of Nations*, Book I. chap. i. par. 7.

[2] *Political Economy*, Lalor's translation, 1878, Book I. chap. iii. § 63, *ad finem*.

CHAPTER XVIII

Efficiency of Labour

Productive and Unproductive Labour

Out of the ill-considered restriction of wealth to material and accumulable objects has arisen a distinction between labour, as it is said to be productive or unproductive—that is, productive or unproductive of accumulable wealth. According to a series of British economists, from Adam Smith down to Mill and Professor Fawcett, all labour of servants, professional men, actors, singers, etc. is unproductive because it leaves no apparent tangible result behind. The idea seems to be suggested by Smith when he remarks that a man grows rich by employing a multitude of manufacturers, but he grows poor by employing a multitude of menial servants.[1] So Mill holds that labour which does not terminate in the creation of material wealth, however largely or successfully practised, does not render the community and the world at large richer in material products, but poorer by all that is consumed by the labourers while so employed.[2] It might easily be shown that these statements are themselves easily overthrown. A man does *not* grow rich by employing a multitude of manufacturers if he consumes their products. If he employs gardeners to grow all sorts of delicacies, firework-makers to produce displays for his company, carriage-builders, upholsterers, and all who contribute to hand-

[1] *Wealth of Nations*, Book II. chap. iii. par. 1.

[2] *Political Economy*, 1886, 9th ed. vol. i. p. 61; Book I. chap. iii. § 4, 1st paragraph.

some and expensive living, he will certainly not add to his wealth. As regards Mill's remark, it is obvious that the food consumed by these labourers will be consumed just as effectually as if the men were coachmen, footmen, and other menials. The whole question is evidently one, not of production, but of consumption. It is the peculiarity of what economists have called immaterial services that they must be consumed at the time. If a footman is not of use while he is giving his services, he is not of use at all. If the song of the vocalist is not enjoyable while it yet rings in the ear, it has been sung in vain. As Sismondi[1] allows, such are cases in which consumption rapidly follows production. Consumption sometimes follows almost equally quickly with material products—the creations of the pastry-cook, the confections of the milliner, the evanescent bouquets of the flower-shop, the firework of the nightly fête. . . .

The distinction is one of so absurd and artificial a character that there have always been protests against it. Lauderdale[2] showed that, according to Smith's view, a tart made by the domestic cook and immediately consumed by the family is made by unproductive labour; but if a pastry-cook make the same sort of pie and sell it to the householder, it is a case of productive labour. As to the French economists, they have never accepted the doctrine. Germain Garnier, the editor of the French edition of the *Wealth of Nations*, showed how strange and inconsistent it was to denominate musical instruments riches, and the labour which produces them productive, while the music which they yield, and which is the sole object for which they are made, is to be contemned as unproductive.[3] Garnier's namesake and descendant, Joseph Garnier, holds at the present day the same sensible view, maintaining that *all*

[1] *Nouveaux Principes d'Économie Politique*, 1819, vol. ii. p. 203, quoted by Say, i. 124.

[2] *Inquiry*, p. 150.

[3] Trans. of *Wealth of Nations*, 1802, vol. v. p. 173, note xx., quoted by Malthus, *Principles*, 1820, p. 46.

rational labour is productive.[1] Only the spirit of system, the necessity of producing apparent consistency, even when the theory fails to agree with facts, can have prompted so many able authors to adhere to such a paradox.

From the point of view adopted in this work it will be quite obvious that distinction between productive and unproductive labour in the sense bestowed upon these words by Adam Smith is quite untenable. All labour is directed to the production of utility—of useful or agreeable effect—an hedonic balance. It is an entirely secondary, if not accidental question whether material commodities are employed at all. The final end of the medical profession is the production of good health; if the physician can effect this purpose by his simple advice about diet, exercise, and way of life, all the better. If he must prescribe medicine, the apothecary is rather the subsidiary than the principal in the good work. According to the old doctrine the physician was unproductive, the apothecary productive. In a theatrical enterprise the manager, actors, ballet-girls, scene-shifters, scene-painters, carpenters, property-men, and all the numerous *personnel* of a theatre, are all engaged about the same purpose—that of producing entertainment for the audience. They are all equally productive, and it is absurd to say that the actors and ballet-girls are unproductive labourers, while those who make their clothes, property, and other theatrical apparatus are productive. Again, the purpose of coal-getting industry is to put coals upon the fire ; the collier who hews the coal and gets it out of the pit, or the railway employees who help to convey it to the consumers in town, are only the earlier partners in a chain of operations which ends with the footman putting the coals on the fire. The footman completes a confessedly useful work, and is therefore himself a useful producer.

The view of the matter here adopted seems to me so obvious that I think it needless to occupy space by further argument. I will, however, point out that in reality the labourers formerly

[1] *Traité*, 5th ed., 1863, p. 25.

so needlessly branded as unproductive form a very large part of the whole labouring population. They include all, or nearly all, domestic servants, who are reckoned by millions. All soldiers, men-of-war's-men, policemen, Government employees, clergymen, lawyers, medical men in general, besides musicians, actors, and many other useful servants of the public, must be set down in the same unproductive class. Adam Smith allows, in fact, that some of the most respectable orders of society, from the sovereign, with all the officers of justice and of war, downwards, are to be counted unproductive. It hardly needs to be pointed out that all these classes of people are equally important and useful to us with the producers of solid articles. Material wealth would cease to be wealth if it were accumulated to such an extent as to be excessive compared with the labour which enables it to serve our wants. What is more useless or even prejudicial than a mansion and estate allowed to fall into disrepair from the want of servants and maintainers? Everybody should, of course, practise economy; but this economy, if wise, will consist in preserving a nice balance of expenditure on durable articles and on temporary services,—the kitchen must be proportioned to the number of cooks, the garden and grounds to the number of gardeners who can be maintained.

If any labour were to be called unproductive it would be that of persons who are unskilful or ill-judged, and fail in their intended purpose. To sink a coal-pit where there is no coal; to excavate a tunnel which falls in, or build a ship which collapses, or a railway where there is no traffic; to write a book which nobody will buy; to arrange a play which nobody cares to hear—such are truly cases of unproductive labour. But the reader must remember that such instances have no relation to the unproductive labour discussed above. So far as they need to be considered, they will come upon the subjects of cost of production, insurance, and rent.

The readers who are not satisfied with the discussion of this

subject as here given may pursue the inquiry in the works quoted in the footnote.[1]

[1] Among those who maintain and defend Adam Smith's view are:—Malthus, *Definitions*, 1827, p. 12; Cazenove, *Political Economy*, 1859, p. 9; Malthus, *Principles*, 1820, pp. 40-50. . . . Travers Twiss, *Progress of Political Economy*, 1847, pp. 171-179. . . . See also the *Wealth of Nations*, Book IV. chap. ix. . . . Among those who have criticised the doctrine are:—J. B. Say, *Traité*, liv. i. chap. xiii.; *Cours*, vol. i. chap. v. p. 91, vol. ii. p. 201; Chalmers, *Political Economy*, 1832, chap. xi.; Wakefield, *Wealth of Nations*, vol. ii. pp. 386-396; Senior, p. 51; Cournot, *Principes*, 1863, p. 266; Scrope, 1st ed. p. 46; 2nd ed. p. 10; Hearn, *Plutology*, p. 27; J. L. Shadwell, *A System of Political Economy*, 1st ed. 1877, pp. 29-31.

CHAPTER XXI

Science

Economic Importance of Science

There can be no doubt that Say and the French economists generally[1] are correct in regarding knowledge, or that more precise and generalised knowledge called Science, as one of the requisites of production. Not only are the surprising extensions of modern industry and trade based upon the wonderful disclosures of recent physical science, but even the most simple operations of primitive industry demanded a corresponding degree of knowledge. Since man began to rise from the ranks of the brutes he has risen by means of intellect. Some kind or degree of science has always been the requisite key enabling him to enlist the powers of nature. Primitive science, indeed, must have consisted of the most direct empirical observations. It is easy to imagine how the floating log of wood suggested the canoe, and how repeated observation would at length show the advantage of starting with the tide and wind in your favour. Between the almost instinctive inferences of the savage and the elaborate investigations of a modern meteorological office there is no breach of continuity.

Knowledge is so wide a term that it really comprehends several very different kinds of mental possession. There is, for instance, at one end of the scale the book knowledge registered in printed pages and available for the service of mankind so long as this globe shall be inhabited. It is a divine power in

[1] Say, *Cours*, i. 95 ; *Traité*, liv. ii. chap. vii. § 2.

the knowing mind which enables it to propagate the like knowledge in other minds, but the incomparable gift of language has by the arts of writing and printing made every earnest mind the teacher of endless generations. But all knowledge is not thus equally communicable; only general knowledge, in fact, is capable of the precise registration which puts the learner on a par with the teacher. There is a great deal which cannot be so registered. The artist cannot describe how he lays on the paint. The man of business cannot give rules for judging of characters and samples. The statesman cannot compose a political testament which shall really hand down to successors the tact and judgment by which he has raised a kingdom.

Arts which depend upon personal skill can never be multiplied like general knowledge. A great musical performer—a Rubinstein, a Joachim, an Ernst, a Paganini, a Jenny Lind, a Sims Reeves—may serve in some degree as an example and incentive to less-talented musicians; but the attainment of the highest efficiency is a matter of personal character and peculiarity of training. We cannot manufacture Rubinsteins and Paganinis. We can only multiply their services while they live by providing halls so large and acoustically perfect that the utmost possible number of persons may be enabled to enjoy their performances.

Stepping from the sublime to the ridiculous, it would appear that cookery is an art which in its highest branches is incapable of sure communication. There seems to be some doubt whether genius is more requisite in the roasting-cook or the pastry-cook. Brillat-Savarin held [1] that "a man becomes a cook, but must be born a roasting-cook." Gouffé holds,[2] however, that roasting is a mere matter of watching the clock rather than a gift of nature. But pastry, in his opinion, is a stretch of art which needs genius. "A good pastry-cook easily becomes a good

[1] *Physiologie du Goût*, 1825, ed. 1870, p. 2. "On devient cuisinier; mais on naît rotisseur."

[2] *The Royal Book of Pastry and Confectionery*. By Jules Gouffé; translated by Alphonse Gouffé. 1870. Preface.

cook, whereas the converse case of a cook becoming a celebrated pastry-cook has never been recorded."

Sewing is now done by machinery, and in proportion to the amount of work done the cost must have been very greatly reduced. But it may be doubted whether the cutting out of dresses can ever be reduced to the same machine-like routine. The human figure is never exactly the same in any two persons, and tastes and fashions indefinitely complicate the matter. Thus the skilled and tasteful cutter out must always command comparatively high wages. There was, indeed, a breeches-maker of Wigmore Street who advertised that he had improved his art by geometry, and had invented a perfect system of breeches-cutting on mathematical principles. But we may suspect that his chief skill lay in the direction of advertisement.[1]

One of the most curious facts in the history of the industrial arts is the failure of modern violin-makers to equal the celebrated Cremonese makers. A genuine Stradivarius or Nicholas Amati is now worth more than a hundred guineas, and there is a definite stock of violins made during the seventeenth century or the earlier part of the eighteenth century which are still used by all the best performers. Were the matter one of science, calculation, or merely mechanical perfection of work, we should expect a modern maker to be far in advance even of Joseph Guarnerius. There must have been some peculiar art in selecting and shaping the wood which was for some time handed down in the Amati family.

In many minor industrial operations there is required a sleight of hand, a delicate adjustment of materials, or some special trick which is never exactly recorded, and is likely to be lost if it be not handed down by direct imitation. The art of glass-blowing and working, especially in the case of the Venetian glass products, must require hereditary skill of this nature. Babbage quotes an interesting story about a maker of dolls' eyes who had a peculiar art incapable of description. A master

[1] Sampson's *History of Advertising*, 1874, p. 529.

manufacturer of glass beads and toys, who had an order for £500 worth of dolls' eyes and was conversant with the manual part of the work, could nevertheless learn nothing from the man's description. But when he got into the man's garret and saw him at his work, "in an instant, before I had seen him make three, I felt competent to make a gross."[1] . . .

Herschel on the Importance of Science

No writer has so admirably expounded the relation of science to industry as the late Sir John Herschel. His classical discourse on the *Study of Natural Philosophy* was the first work of the present century in which the relations of physical science, both to the principles of philosophy and to the progress of civilisation, was correctly and adequately stated. Describing the laws of nature as invincible opponents, but irresistible auxiliaries, he enumerated four principal ways in which a knowledge of those laws assists us.[2] I cannot do better than give an epitome of his views, with such brief illustrations as seem most suitable in the present day.

In the first place, science shows us how to avoid attempting impossibilities. Immense trouble and ingenuity used in former centuries to be wasted upon attempts to invent a perpetual motion. It was supposed that a machine might be made to move itself, and, if so, to spare some force to move other machines. This idea was no doubt as absurd as to suppose that a man could lift himself up by pulling at the seat on which he was sitting. But it is not more than three-quarters of a century ago that the absurdity of such attempts became generally recognised by scientific men, and it is within the last forty years that Joule and other physicists have demon-

[1] Scrope, 2nd ed. 1873, p. 49, note; Babbage, *Economy of Manufactures*, 1835, § 300; Rep. of Com. of House of Commons on *Artisans and Machinery*, 1824, 4th Report, pp. 313-415.

[2] *A Preliminary Discourse on the Study of Natural Philosophy*, Lardner's *Cabinet Cyclopædia*, 12mo, 1st ed. 1831, pp. 44-50. The book is said to be still in print. (Longmans.)

strated that even in all the transmutations of heat and electric force there is neither creation nor destruction of energy.[1] Sir John Herschel refers to an attempt made many years ago to establish a colliery at Bexhill, in Sussex, remarking that a knowledge of elementary geological truths would have saved eighty thousand pounds. The whole assemblage of geological facts was adverse to the existence of a regular coal-bed in the Hastings sand, while these strata were separated from true coal-strata, if such there were, by a series of interposed beds of such enormous thickness as to render all ideas of penetrating through them absurd.[2] It is remarkable, however, that this very attempt has since been made in the case of the sub-Wealden boring undertaken in Kent, not very far from Bexhill. Though this boring failed to disclose coal, there were scientific reasons for thinking that the result might have been different. But geological truths are of a totally different order of certainty from mathematical and physical ones, and, though it may sometimes be very difficult to distinguish, it may nevertheless be true that some promising designs are absolutely hopeless and absurd, while others apparently impossible may be within the reach of advancing science and mechanical ingenuity. Thus travelling by balloons or aeronautic machines is in all probability chimerical, because such machines possess no point of reaction, no fulcrum or *point d'appui*. They are therefore entirely at the mercy of the winds, and can never possess that certainty of motion which is a main requisite of modes of travelling. Richard Lovel Edgeworth's wind-chariots are as likely to supersede railway trains as the flying machines of more recent inventors.

On the other hand, the attempt to collect and utilise the direct rays of the sun in the manner of M. [?] solar engine[3] is a very difficult enterprise of slight and doubtful

[1] *Coal Question*, 2nd ed. 1866, chap. viii.

[2] See Clift, *Elements of Political Economy*, Calcutta, 1846, p. 22.

[3] See Chambers' *Encyclopædia*, 1901, *s.v.* "Air-engines."

success. But there is nothing inherently absurd in it, and repeated attempts with the advantage of mechanical improvements may lead to success at some future time.

In social and economic matters there may be mistakes made as absurd as that of the perpetual motion. Currency schemes not unfrequently involve misapprehensions amounting to self-contradiction, leading to impossibility. Such, for instance, are the proposals which have been several times put forward or even tried of issuing interest-bearing paper money.[1] It is logically impossible that a ten-pound note should exactly represent ten sovereigns and at the same time bear interest, which the sovereigns do not.

In the second place, science assists us, according to Herschel, by "securing us from important mistakes in attempting what is, in itself, possible, by means either inadequate or actually opposed to the end in view." He refers to the ingenious idea of some ironmaster to blow his blast furnace by a powerful jet of steam, in ignorance of the fact that steam is wholly unsuited by its chemical nature to sustain combustion. For a long time, too, iron manufacturers were under the impression that, in order to produce iron in abundance and good quality, the blast of air should be as cold as possible, refrigeration by ice having even been tried. Science, however, showed that exactly the opposite course was best, and that the blast should be heated as highly as possible. Cold blast iron is, however, still made for certain reasons.

In the third place, science enables us "to accomplish our ends in the easiest, shortest, most economical, and most effectual manner." The bleaching of linen, for instance, used to be accomplished by prolonged exposure to sun, rain, and air; weeks, and even months, of time were needed, and were all the calico and linen made in Great Britain thus bleached at the present day, there would probably be no fields left for agriculture. Science, however, showed that bleaching might be effected by chlorine in a few hours, or even a few minutes. Mere immersion in

[1] *Money and the Mechanism of Exchange*, 1st ed. 1875, p. 246.

solution of chloride of lime and subsequent application of weak acid produces the required change in a few moments. The whole of the achievements of chemical and mechanical science are but so many illustrations of the assistance which science gives us in the way so clearly stated by Herschel.

Lastly, science is important "in inducing us to attempt, and enabling us to accomplish, objects which, but for such knowledge, we should never have thought of undertaking." In the present age of telephones, submarine cables, Bessemer converters, ... it is unnecessary to support the truth of Herschel's fourth class of advantages by any instances. Ariel's girdle round the earth is almost realised. The news of the recent unfortunate explosion of the *Doterel*[1] was transmitted from Montevideo to London in two hours, and a merchant in London can communicate within a few hours with places so widely separated as San Francisco, Natal, and Melbourne. Nor is there any reason to suppose that the resources of science, especially electric science, are at all exhausted. The storing of electric energy is just now the latest new conception of scientific men,[2] and it is at least a reasonable conception that jars full of electric energy might be provided where water-power or other prime source of energy is available, and carried to towns where they might work machines, carriages, etc., or furnish illumination. . . .

In the present chapter we have been concerned only in noting the aid which science gives in production. Later on we shall have to inquire into the economic conditions which favour the promotion of science itself. So far, indeed, as a scientific man pursues his experiments from the pure love of knowledge and the almost spontaneous action of the intellect, the matter lies beyond the domain of economics. The whole of Faraday's wonderful researches were accomplished without hope or wish for pecuniary or other extrinsic rewards, the modest salary and residence secured to him by the managers of the Royal Institution

[1] *The Times*, May 4, 1881. [2] *Nature*, May 1881, vol. xxiv. pp. 19-21.

being rather the means than the reward of his labours. But there are not many Faradays, nor again are the small experiments of the laboratory usually sufficient to show the precise way of making great economic reforms. The labour of the inventor is expensive and perilous in the highest degree, and we shall therefore have to consider how, whether by endowments, special rewards, patent rights, social honours, or otherwise, those labours can be adequately requited. It is one peculiarity of knowledge that when once disclosed it is at everybody's service. To enjoy the power of a Rubinstein we must have Rubinstein present, but if a Faraday or a Crookes once publishes a new physical truth we need not go to them a second time for that truth. Say remarks that knowledge is but little consumed by use,[1] but it might be better said that it is not consumed at all. It multiplies indefinitely, and may even grow and improve in the spreading. Special economic means may therefore be possibly desirable for supporting and requiting scientific labours.

[1] "S'use peu par l'usage."

CHAPTER XXII

Division of Labour

We now enter upon one of the most important topics in the whole range of economic science. Adam Smith begins the first chapter of his great work by remarking that the greatest improvements in the productive powers of labour seem to have been the effects of the division of labour. There can be no doubt that he is practically correct; and though exception may be taken to the logical propriety of commencing with this subject, Smith's first three chapters, all treating of the division of labour, form a charming introduction to his treatise. Students who intend to read no further should invariably read these chapters of Smith, and the probability is that, having read these, they will continue.

By the division of labour is meant such a distribution of work among those who are to perform it as will cause each workman to be occupied as much as possible with a single kind of operation. It is what Mr. Herbert Spencer would call *differentiation of labour*—that is, the producing of difference in kind between one man's labour and another man's. Objection has been taken by Gibbon Wakefield, the acutest of the editors of the *Wealth of Nations*, to this phrase division of labour, on the ground that it is really union, not division. Men who are doing different parts of the same common task must combine their labour together. It is the solitary peasant or the solitary savage doing all kinds of work for himself who is really divided from other labourers.[1]

[1] *Wealth of Nations*, Wakefield, vol. i. pp. 21-52.

On this account Wakefield replaced what he considered an inaccurate expression by the more accurate one, the *division of employments*. An employment here means a kind of occupation, and the kinds of occupation may become more and more divided while the labourers themselves become more united and interdependent. Few writers, however, thought it needful to follow Wakefield,[1] and when a name is so exceedingly well established in use, and its meaning fairly well comprehended, it is undesirable to attempt to disestablish it. If, indeed, any new name is to be introduced, it would be best to speak of the *specialisation* of labour or industry,[2] meaning, of course, the production of various species or kinds of trade, occupation, or business.

A question has been raised as to the degree of originality of Smith's doctrine of the division of labour. Lauderdale, in his usually acute and sound work, not only speaks somewhat slightingly of the supposed advantages arising from division, but points[3] to a remarkable passage in Xenophon's[4] *Cyropædia* where these advantages are partly described. In small towns, says Xenophon, the same persons are employed to make a bedstead, a door, a plough, a table. It is impossible that a man practising a great variety of trades can be expert in them all. But in great cities, where there are many who have a demand for each article, a person gets his living by exercising a single profession—and not even the whole of that. One person makes shoes for men, and another for women only. Sometimes one man maintains himself by sewing shoes, and another by cutting them out; one by cutting and shaping garments, and another, without interfering with any other part of the business, by joining the pieces together. A man, therefore, who confines himself to one simple department of workmanship must of necessity execute it in the best manner. There can be no

[1] I can only name the author of the article, "Division of Employments," in the *English Cyclopædia, Arts and Sciences*, vol. iii. p. 588.

[2] Garnier, *Traité*, 5th ed. 1863, p. 216.

[3] *Inquiry, etc.*, 1st ed., chap. v. p. 282; 2nd ed., p. 277.

[4] Book viii.

doubt that this is a very clear and able statement of the principle of specialisation, but, as remarked by Storch,[1] it would be possible to name a series of writers of different ages and nations who have also understood the division of labour more or less clearly. Among these are Plato, Beccaria, Turgot, and Harris.[2] The last-named writer expressly remarked that the advantages accruing to mankind from their betaking themselves severally to different occupations are very great and obvious. "Each becoming expert and skilful," he says, "in his own particular art, they are enabled to furnish one another with the products of their respective labours, performed in a much better manner, and with much less toil, than any one of them could do of himself." But it cannot be seriously maintained that the casual remarks of previous writers, however happy, detract from the importance and merit of the exquisite chapters with which Adam Smith opens his *Wealth of Nations.*

The Invention of Machines

The third great advantage which Adam Smith attributes to the division of labour is the manner in which it causes labour to be facilitated and abridged by the application of proper machinery. In his opinion, the invention of all those machines by which labour is so much facilitated and abridged seems to have been originally due to the division of labour. Men, he thinks, are much more likely to discover easier and readier methods of attaining any object when the whole attention of their minds is directed towards that single object than when it is dissipated among a great variety of things. The greater part of the machines made use of in those manufactures in which labour is most subdivided were, according to Smith, originally

[1] Vol. iv. pp. 5-9.

[2] Plato, *Republic*, Book ii.; Beccaria, *Cours d'Économie Politique*, 1804; Turgot, *Reflexions, etc.*, 1771, paragraphs 3, 4, 50, 62, 66, and 67; Harris, *Essay on Coins*, 1757, pp. 15-18. Many other references are given by Roscher, § lviii. vol. ii. p. 189.

the inventions of common workmen, who, being each of them employed in some very simple operation, naturally turned their thoughts towards finding out easier and readier methods. The only instance, however, which he gives in support of this view is that of an engine-boy who was employed as a cock-boy to open and shut the cocks of an old Newcomen engine. This boy, named Humphrey Potter, is said to have attached a catch and strings in such a manner to the cocks and lever that the cocks were opened and shut by the rise and fall of the beam.[1] The engine thus became self-acting—an improvement obviously of the greatest importance. Even supposing this story about Potter to be authentic, one instance does not prove a rule. Hundreds of thousands and millions of boys and men are constantly performing routine operations to which their attention is exclusively devoted, but how many in consequence make improvements? It would, probably, be possible to discover a certain number of inventions which actually have been made in the manner supposed by Adam Smith, and many more doubtless remain unrecorded and forgotten. It is also true that most of the great inventors were originally working men of obscure origin. Savery was a miner; Newcomen a blacksmith; his partner, Cawley, a glazier; Watt a philosophical instrument maker; Arkwright a barber; George Stephenson a colliery engineman. . . . Of the other great inventors, such as Smeaton, Bramah, Roberts, Nasmyth, Bessemer, and the like, hardly one but was a self-made genius of humble origin. But the first great English inventor, William Lee, who invented the stocking-frame, was a clergyman; Worcester, who first constructed a steam-engine, was a nobleman, as also Stanhope, who improved the printing press. Then, again, it may be easily observed that there is little relation between the original trade of the great inventors and their subsequent inventions. In fact, there hardly could

[1] Desaguliers's *Experimental Philosophy*, 1744, vol. ii. p. 533; quoted in *Abridgements of Specifications relating to the Steam Engine*, vol. i. p. 37. Desaguliers seems to be the only authority for this story.

be any fixed relation, because most of the great men named have made diverse improvements and new creations. Bramah's locks bear no relation to his hydraulic press or his ships' block-making machine. Bessemer is, of course, chiefly known for his great reform in steel-making, but he has also made a series of other discoveries and inventions, such as dated stamps, patent gold powder, etc. James Watt, the greatest of all, had nothing to do with steam-engines except to mend a model of one belonging to the Glasgow College, and the whole of his all-important improvements in the steam-engine were the result of intentional study, elaborate experiment, and genius.

Without prolonging a discussion for which there is no sufficient space or purpose here, it may be safely said that Adam Smith's view of the origin of inventions is mistaken. Nevertheless, the division of labour has a large part in the matter, because in an elaborated and advancing state of industry it allows a man of ingenuity to adopt *the profession of an inventor*. It is indeed a hazardous profession, and one to which no man not impelled by the force of genius would be likely to devote himself. But there can be no question that men like Watt, Smeaton, Bramah, Bessemer, not to mention the still more recent names of Whitworth, Armstrong, Siemens, Edison, Bell, and the like, distinctly devote themselves to the labour of invention. The principles of machine construction are now, indeed, so well understood that self-acting machinery can now be designed almost *ad libitum* for the accomplishment of any ordinary work. The proprietors of large factories often employ an ingenious draftsman in the capacity of inventor of machines. Of this class of machine designers, Roberts of Manchester was the best example. It may be added that this view of the matter is clearly suggested by Mr. Smiles,[1] whose admirable works contain most of what we know about the history of invention in this country.

[1] *Lives of the Engineers*, 1861, vol. i. p. 207, etc.; quoted by Hearn, *Plutology*, p. 279, whose views are partially the same as those adopted above. See also Senior, p. 73.

It is also easy to see that the division of labour immensely assists invention, and is, indeed, the necessary condition of any considerable advance, by allowing the manufacturer to carry on a special kind of industry on a large scale, and surround himself with extensive special machinery and appliances. This point of the matter will be further considered below.

CHAPTER XXIII

Classification of Trades

The Classification of Employments

Considering how important and familiar are the facts, it is surprising that more attention has not been given to the systematic and scientific classification of trades and occupations. Not an insect, plant, or fossil has been found by scientific men which has not been assigned its place in some laborious work on natural history. For nearly two centuries a succession of great naturalists have proposed their respective principles and methods of classification. Yet we ourselves, as workers and traders of various kinds, have remained almost unclassified. Statists have drawn out long lists of occupations, and it is only necessary to open the *London Directory* to find abundant facts ready at hand. But it may fairly be said that no approximation has been made to a true natural system of classifying trade.

Probably the earliest writer who has paid any attention to this subject is Sir William Petty, the illustrious originator of statistical science in England. Among the portion of his manuscripts preserved in the British Museum, is a small paper containing a list of trades as they existed in his day, which, if it does nothing more, proves that he foresaw the interest and importance of the subject. The earliest published attempt at the industrial classification of society to which I can point is contained in the work of P. Colquhoun,[1] the fourth chapter of

[1] *A Treatise on the Wealth, Power, and Resources of the British Empire, in every Quarter of the World . . . illustrated by Copious Statistical Tables constructed on a new plan.* London, 1814, 4to.

which is an attempt at a statistical map of society. In pp. 124-126 the author actually gives a tabular classification of the population as calculated by him to exist in Great Britain and Ireland in 1812. Beginning with royalty, and proceeding downwards through the nobility, gentry, government civil officers, the army and navy, clergy, law, physic, and the fine arts, he then divides the main body of industry into two great groups, respectively occupied with (1) agriculture and mines, and (2) foreign commerce, shipping, manufactures, and trade. The former group evidently corresponds to what Mill has called Extractive Industry. Colquhoun enumerates four sub-groups—namely, freeholders of the better sort, lesser freeholders, farmers, and labouring people employed in agriculture, mines, and minerals. His second group is naturally a very extensive one, and is somewhat elaborately divided, beginning with eminent merchants, bankers, etc.

The second chapter of Mill's *Principles*, as many readers will remember, contains a simple classification of modes of employing labour. After drawing a distinction, which is not easy to understand, between labour directly and that indirectly employed in production, he enumerates five modes in which labour is indirectly instrumental to production, which may thus be very briefly stated—(1) extractive industry; (2) provision of implements; (3) protection of industry; (4) conveyance and commerce; (5) educational and scientific industry.[1] . . .

It might perhaps be said, indeed, that the science of political economy began with the classification of trades, for the *Tableau Économique* of Quesnay formed a kind of simple and rude sketch of the organisation of industry and of the way in which commodities and money passed from class to class in it. Quesnay distinguished but three principal classes—namely, Proprietors, Producers, and Sterile members of society.[2] Baudeau[3] somewhat developed this scheme. Destutt de Tracy freed himself from

[1] *Principles*, 1886, 9th ed. vol. i. Book I. chap. ii. §§ 3-8, pp. 42-53.

[2] Daire, *Physiocrates*, 1846, pp. 58, 59.

[3] *Ibid.*, p. 846, etc.

the crudeness of the physiocratic doctrines, and refused to allow that any successful labourer is sterile. Thus, while he recognised *Industrie Fabricante*, which is engaged with change of form, and *Industrie Commerçante*, engaged with change of place, he placed agriculture under the former, holding that a farm is, in truth, a manufactory.[1] Later French authors have further developed these ideas; thus, Joseph Garnier[2] treats expressly of the classification of industries, and establishes two grand divisions. The first division contains the arts engaged with things, forming the material or industrial arts, seven in number —namely (1) extractive; (2) of transport; (3) manufacturing; (4) constructive; (5) agricultural; (6) commercial industry. The second division contains the arts engaged with men—namely, the immaterial industry, having as objects—(1) the physique; (2) the intellect; (3) the morals; (4) safety of men.

By far the most elaborate classification of trades which has been yet attempted is to be found in the Reports on the English Censuses of 1851, 1861, and 1871.[3]

These very elaborate and most interesting documents are due to Dr. Farr, to whom statistical science owes so deep a debt. Dr. Farr distinctly set before himself the task of forming a natural classification of trades, which should be to industrial genera and species what the system of Linnæus was to have been to animals or vegetables. He also formed a scheme for a complete inquiry into occupations, intended to be the foundation of a complete history and statistical description of all industries. He even drew up specimens of such Industrial Histories in the branches of coal mining and the medical profession.[4] Unfortunately the investigations thus wisely projected

[1] *Elémens d'Idéologie*, chap. iv. 1826, p. 96.

[2] *Traité*, chap. ii. § 9, pp. 49, 55, etc. See also his account of the views of Dunoyer and Sismondi.

[3] *The Census of Great Britain*, Condensed Report, 1854, 8vo, pp. 56-73, 122-154; *Census of England and Wales*, 1861, General Report, vol. iii. pp. 27-39, 189-243; *Population Tables*, vol. ii. pp. xxxi.-lxxii. *et passim*; *Census of England and Wales*, 1871, General Report, vol. iv. pp. xxxviii.-liv. . . .

[4] *Census of* 1861; Appendix to General Report, pp. 235-248.

have never been carried into effect, and we are deprived of abundance of easily procurable information which would have thrown a flood of light upon the industrial working of society. The inquiries involved especially in the preparation of the present treatise would have been immensely facilitated and promoted by such a general view of the national industry. Regard to space prevents my attempting to epitomise or to criticise the classificatory systems of Dr. Farr. It can only be said that Dr. Farr forms a series of classes of producers, such as (1) the professional; (2) domestic; (3) commercial; (4) agricultural; (5) industrial; (6) indefinite class, including the non-producers. Each class is divided in several orders; thus the professional class includes (1) the order engaged in the government of the country; (2) those engaged in defence; (3) those engaged in literature, art, and science. . . .

My own early studies of economics may be said to have commenced with this subject. Starting with Dr. Farr's system of statistics of the 1851 census, I made an elaborate investigation in the years 1856 and 1857 of the trade portion of the *London Directory*, and compiled statistics intended to be the foundation . . .

Natural Classification of Trades

It seems obvious that a really natural classification of industrial occupations, so far as it is capable of being made out, must proceed upon the principle of tracing the history of each kind of commodity from its first beginning in the mine, the farm, or the stream, to its final consumption. If so, there must be a double and cross system of classification. We must classify trades according to the kind of commodity they deal with, and we must classify them again in a separate and different manner according to the part which they take in dealing with the commodity. There will be, for instance, a very large class of trades dealing with cotton, importing, storing, selling, spinning, manu-

facturing (*i.e.* weaving), distributing, sewing, and finally retailing the finished goods. But the very brief enumeration here given of the trades dealing in cotton shows that they must be distinguished cross-wise. The merchant is a different person from the broker, from the factory owner, and the factory hands; there are, again, intermediate dealers in yarn, dealers in grey cloth, and warehousemen or dealers in finished cloth—all distinct from the final distributors, namely, shopkeepers. It is easy to see that, while the details will differ infinitely, the general history of progress of a commodity will usually present similar features. Thus, in the case of silk or wool, there will be importers, brokers, winders or spinners, manufacturers, dealers, and retailers, somewhat as in the case of cotton.

I propose, then, that we should distinguish *classes* and *sub-classes* of industry according to the commodity dealt in, and that we should further and separately distinguish the *orders* and *sub-orders* of industry according to the kind of operation performed upon or concerning the commodity. . . .

The Orders of Industry

On the whole it will be most convenient to describe, in the first place, the principal orders of industry, or ranks of traders, as it were, who successively contribute some operation to the complete production of a commodity. All material commodities proceed from some source of material, described by *synecdoche* as land. Thus, the first order of industry will consist of all proprietors of land or of sources of raw material analogous to land, including quarry-owners, mine-proprietors, owners or lessees of fishing rights, . . . The functions of these owners, however, are generally of a passive kind, and, so far as they are simply owners, they merely provide the land or water which belong to them by law, and receive the rents or royalties in return.

Closely related to the proprietors, and often in fact identical with them, are the producers of raw materials, who form the second great order of industry. They include, in the class of agriculture, all farmers, farmers' servants, and agricultural labourers in general; also shepherds, gardeners, fishermen, . . . In the classes dealing with metals, again, the order of producers will obviously include all miners and colliers, as well as the managers, captains of mines, overlookers, underlookers, and so forth, who, though not actually working with the mineral, direct the operations. In other classes of this order, again, we shall find woodmen, lumberers, hunters of wild animals, seamen engaged in the herring, cod, whale, seal, dugong, and other fisheries. This order, taken together with the preceding, evidently corresponds to the extractive industry of Mill and others.

The third order of industry contains the dealers in raw materials, who provide for its regular transmission from the producers and its economical distribution to manufacturers. Thus, in the class of corn we have corn merchants, corn agents, corn factors, corn chandlers. In the cotton trade we have cotton importers, merchants, brokers, agents, salesmen, etc. In other branches we may name wool merchants, brokers, etc.; hair dealers; hide dealers; hop dealers; timber merchants; tobacco importers; coal agents; rag dealers, and other dealers in paper material; china clay agents; . . . and so forth, almost without limit. This order, as well as some which follow, would evidently admit of division into sub-orders, especially the sub-order merchant as distinguished from the sub-order broker. The distinctions between the functions of merchants, brokers, factors, agents, chandlers, are often of a nice and even uncertain and variable character, according to the customs of different trades. So far as I can treat the subject in further detail, it must be done in a later part of this work when we consider the organisation of markets. But the chief division must evidently be between merchants, importers, and speculators, who own the materials

and take the risk of their rise and fall in price, and, on the other hand, brokers, factors, and other agents, however denominated, who only negotiate transactions and receive a commission, salary, or other form of remuneration. It will, of course, be understood that these divisions are often formal rather than real: the broker may trespass beyond his proper functions and speculate in stocks of commodities; the manufacturer may buy well in advance or even beyond his own needs, and thus become a merchant. But it is obvious that we can distinguish the functions even when the person is the same.

Proceeding to the third order, we place in it all who operate upon raw material so as to prepare it for use, or, as we now usually say, manufacture it. The miller and the baker manufacture corn into bread; the tanner and the bootmaker convert raw hides into boots; the brewer purchasing malt and hops makes beer; the sawyer, the cabinetmaker, and the carpenter procure timber from the timber merchant and convert it into useful articles, and so forth. The kinds of manufacturing industry are indefinitely varied and numerous, but they all fall into this broad order. The principal difficulty is the fact that the same material often passes through two or more distinct stages of manufacture, performed in different places and by different persons. Thus, malt is made by the maltster and bought from him by the brewer, except in the case of very large breweries which perform both operations. The miller is almost always distinct from the baker. In the cotton manufacture there are two great and usually distinct stages—the spinning of the cotton into yarn, and the weaving, or, as it is always called, the manufacturing of the yarn into cloth. There are plenty of works, indeed, where both mules and looms are found, but there are so many more distinct spinning mills and loom-sheds that yarn and cloth become distinct commodities, varying separately in price to some extent, and each the foundation of an important trade. Much the same separation of operations occurs in the woollen, flax, and even silk trade. It reoccurs even in the

iron trade, where the pig-iron market is distinct from the finished iron market.

An interesting point of the subject is, that whenever the process of manufacture is thus broken into sections, an intermediate order of dealers in the partly manufactured commodity springs up. Thus, between the miller and the baker is the flour merchant or dealer. In the cotton trade a complicated series of yarn merchants, agents, and brokers, is intermediate between the spinner and the manufacturer. As most of the cotton cloth undergoes the further operation of dyeing, printing, calendering, or otherwise preparing for use, there arises at least a third sub-order of manufacturers, with an intermediate sub-order of cloth agents and dealers; but the complication of the cotton trade is far too great to be traced out in detail in this place.

The commodity, having been at length completely manufactured and ready for use, usually passes into the hands of wholesale dealers, who constitute a fifth principal order of industry. These dealers, indeed, seldom confine their trade to one commodity, for reasons which we shall presently discuss more fully. In many cases the same material is manufactured into a great variety of articles: thus, wool is made not only into flannel and broadcloth, but into blankets, felt articles, hosiery, carpets, and so forth. Were there a separate class or sub-class of industry for each kind of article there would be as many kinds of dealers as there are boxes in a draper's shop. As a matter of fact, we find the wholesale dealers in manufactured goods are most comprehensive in many cases. A large warehouse in Manchester, Glasgow, or the city of London, is within certain limits a universal providing establishment divided into many departments, and each department greatly subdivided. Many shippers of finished goods, again, will ship almost anything for which they get an order, or see an opening abroad. In some of the larger branches of foreign trade, such as the export of cotton goods, the iron trade, etc. there are many large

houses exclusively engaged in a few kinds of commodity. But there is great variety and freedom in the trade in finished commodities. Whether by means of commercial travellers, by orders through the post, or by personal visits of shopkeepers, the goods at length reach the shelves and counters where the consumer may inspect and purchase them.

The sixth great order of industry includes the whole body of retail dealers—such as shopkeepers, licensed victuallers, hawkers, costermongers, and all who deliver directly to the consuming public. In some obvious cases the retailer performs the last act of manufacture. The butcher slaughters, or at any rate cuts up, the meat; the baker usually bakes as well as sells the loaves; the same may be said of the confectioner, . . . and a few others. This conjunction of orders is due only to the need of freshness and immediate distribution. There is an evident tendency to dissolution of the manufacturing and distributing work: thus, in large towns bread is to a considerable extent baked in large establishments, and rapidly delivered to shops which used to be bakeries. Biscuits and cakes of many kinds are now manufactured on a large scale, and either delivered very frequently or else preserved in tins.

Conjunction of orders also arises from the need of fitting articles to the personal peculiarities of the customer. Thus, the tailor must measure his customer and cut and make the clothes to his fancy, as well as provide the cloth. The dressmaker, milliner, bootmaker, and hatmaker, fall more or less under the same conditions. There are indeed dressmakers who make up the ladies' own materials, and in Savile Row there is a sharp distinction between the tailors who actually cut out and make up, and the dealers in cloth who supply them with materials. But there is a strong tendency on the part of the trade to keep the customer from intervening in the matter. The dressmaker likes to merge the material and the trimmings and her own skill into one great total, just as the silversmith hesitates to charge separately for the weight and fashion. . . .

Although we have now traced the goods completely through the recognised curriculum of trade, it is obvious that a good deal of labour is spent upon them before they actually enter the mouth or cover the shoulders of the consumer. The carrying of the goods to the house is now commonly effected by the tradesmen or by a parcel company. But the food has to be dressed and cooked by the cook, and served up by the waitress. The clothes have often to be washed and "got up" by the laundress, and laid ready by the housemaid. Thus, in a seventh order of industry we might fairly place domestic industry, which, as a matter of fact, employs in the United Kingdom [about two and a half millions] of cooks, waiters, nurses, chambermaids, footmen, butlers, grooms, and other domestic servants [or about seven per cent of the total population, and sixteen per cent of the employed population [1]].

Classes of Industry

Transverse to the orders of industry just described run the great streams or branches of industry, which we may endeavour rudely to sketch out under the name of classes. Great difficulties, however, arise not only about the details of these classes, but even about the *fundamentum divisionis*. Can we best classify trades according to the material dealt with, or according to the want which the trade ultimately supplies? In some important cases the two methods suggested would coincide. Thus the great series of orders engaged in the supply of bread deal in England with wheat; there is comparatively little wheat used for any other purpose than human food, and there is little bread not made of wheat. But in other cases a single finished commodity contains materials of diverse character. An arm-chair, for instance, requires timber for its framework, leather for its cover, hair for its stuffing, metal-work for its castors, and

[1] Bowley, *Statistical Studies*, 1904, p. 5.

so forth. On the other hand, the same material is often made up into articles having the most diverse uses. India-rubber is a component of dress-fabrics, of furniture, of stationery, and of things having almost every conceivable use. Metals like steel or brass are of infinitely diversified utility. On the ground of economic theory there is no doubt that the classification of wants should, as far as possible, be made the classification of trades. Thus we might say that there is first the great class of food producers; secondly, the great class of clothing producers, broken up into sub-classes according as the material is cotton, wool, flax, silk, or india-rubber; thirdly would come the trades engaged in providing lodging, including the whole of the building trades so far as employed upon dwelling-houses, and, as a sub-class, cabinetmakers, upholsterers, and others engaged with furnishing the interiors of our dwellings. A fourth large but miscellaneous class, broken up into many sub-classes, would include all who furnish adornments, amusements, literature, and whatever we might group under the vague word refinements. Thus stationers, printers, bookbinders, publishers, music publishers, musical instrument makers, artists, artists' colour makers, fancy goods makers and dealers, and an infinity of other trades, would here find places. But the difficulties of the matter are endless and obvious. Thus, printers and stationers do not merely supply the need of literature and direct wants of correspondents, but they furnish account-books and stationery for merchants and tradespeople, who use them as a means of carrying on business. The building trades, again, do not merely provide dwellings which supply directly the want of shelter, but they also construct factories, banks, shops, and other business premises. It is not possible to discriminate classes of builders engaged on dwelling-houses from those engaged on industrial structures. In some cases builders may happen to be exclusively employed on dwelling-houses, and others upon large mills and warehouses, but this would be casual. In many cases the same building will serve as a dwelling above and a shop

below, and it is becoming common to erect large blocks which combine shops, offices, store vaults, and dwelling-houses above.

After considering these and other difficulties for more than twenty-five years, I have come to the conclusion that it is hopeless to attempt to draw out any written or printed scheme of classification which could in the least degree cope with the complexities of industrial relations. All that we can do is to suggest the principle of classification and exemplify it in the less complicated cases. Taking a loaf of bread, we can trace back its industrial history, and map out without difficulty every trade concerned in its production. A cotton garment has, in like manner, a distinct industrial pedigree. Mentally we may make the same scheme of descent for any single article: thus, a leather-covered writing-desk derives a wooden framework from one series of trades, its leather cover from another, its lock from Birmingham, its putting together being done perhaps by London workmen. So infinitely numerous are the articles contained in a large modern store, and so diverse are the industrial pedigrees of the several articles, that it would be obviously impracticable to exhibit them in any volume. No two leaves of a tree are exactly alike, but the botanist does not therefore give a separate diagram and a separate name to each in his book. Infinite detail does not serve any of the purposes of science. Accordingly, I think that, with regard to economic science, we must adhere to wants as the basis of our imaginary classification. When we come to any practical application, as in tabulating the results of a census of occupations, or arranging the contents of a great industrial exhibition, we must still adhere to wants as the primary basis, but allow arrangement according to materials when it becomes obviously more instructive.

Distributive Industry

It will hardly have escaped the reader's attention that large groups of trades are passed over in the foregoing sections. Thus

the vast number of persons engaged in conveyance, whether of passengers or of goods, have not yet been mentioned. These act partly in direct satisfaction of the want of conveyance, partly as subsidiaries in conveying the produce of other trades. Thus a person hiring a carriage for a country drive, taking an excursion train, or otherwise travelling for pleasure or health, employs these means of conveyance as direct sources of utility. But a lawyer taking a cab to attend court, a commercial traveller on his usual railway round, and many other classes of travellers, only use conveyance as a means. No doubt the direct utility is by far the smallest part of the matter. The great mass of expenditure on railways, canals, ships, docks, roads, carriages, carts, and horses is incurred in trade and industrial operations. In our complex modern system of trade the whole of the commodities dealt with by other trades have generally to be moved backwards and forwards several or many times in the course of production. Thus the labour of conveyance is a general adjuvant of other industry, and a very important one, as we shall find when we come to consider the effect of cost of conveyance on prices.

Then, again, there are many important trades which, though not actually engaged in effecting conveyance, are engaged in directing and facilitating it. . . .

Subsidiary Employments

In order to conceive at all adequately the complexity of modern industry, it is necessary to observe that almost every large trade has several other trades which furnish the implements or minor materials. The carpenter deals principally with wood, and may be conceived as of the manufacturing order, compared with the timber merchants and dealers from whom he purchases the sawn timber; the sawmill proprietors being another order of manufacturers. But the carpenter also needs edge tools, nails, glue, glue-pots, fittings, and other requisites, and

there arise a series of trades which have no purpose but to supply the wants of the carpenter. Nobody can eat glue or use it otherwise than as a material for the construction of boxes and other useful articles. We may describe as *subsidiary trades* any which thus merely assist other trades by supplying the minor requisites. We should hardly say that the corn-dealer and miller are subsidiary to the baker, because all that the baker bakes the miller must have ground to flour, and the corn merchant dealt with, as a general rule. But, though the principal material of a trade, such as wheat, cotton, or wool, often pursues a simple linear course from the field to the household, there is often a very complicated pedigree when we take into account the series of minor materials and implements required at the several steps of production.

To exemplify this fact I have endeavoured to exhibit in the frontispiece the complete series of orders and subsidiary trades belonging to the one highly important and yet comparatively simple trade which deals with wheat flour and supplies bread. We start upwards from the landowner, who supplies the first requisite of industry, and forms the first order. But he is not always able or inclined to carry out the very simple duties attaching to his position; he needs constantly or at certain contingencies his estate agent, his steward, his solicitors, not to speak of surveyors and . . . . These, then, are his subsidiary trades, not always exclusively attached to his service.

The second order of this class, as already explained, contains the farmer, whom we may regard as forming one order with his own servants, labourers, wife and children, employed on the farm, besides any foremen, bailiffs, or others, who share his work. These are not subsidiary employments, because the work they perform in the aggregate is farming. These are cases rather of what are elsewhere described as subdivision of labour. But the farmer, nevertheless, needs a number of subsidiary trades, as shown in the diagram, which furnish him with agricultural implements, seeds, manure, . . .

The next order of industry is the corn merchant, dealer, broker, chandler, etc. Although his operations might seem to be comparatively simple, he yet needs the subsidiary trades of granary owner and keeper, corn-meter, sack maker and owner, and corn-measure maker. The miller obviously forms the first manufacturing order, and he employs the subsidiary trades of millwright, machinist, builder, bolting cloth manufacturer, millstone importer, millstone cutter, and so forth. Then come the intermediate flour dealer and the baker, the latter of whom needs the oven-builder and the bakers' peel maker—the peel being a kind of thin, flat spade with which the loaves are put into and removed from the oven. The faggots, shavings, or other fuel used in heating bakers' ovens, is also furnished by an almost distinct trade.

Almost any other important trade would furnish a like scheme of orders with subsidiary trades. The difficulty generally consists in the complexity of the relations. Thus, the cotton trade has not only an elaborately developed series of orders and sub-orders, but there are multitudes of subsidiary trades, such as loom makers, loom brokers, weavers, turners, makers of spindles, reels, shuttles, slays, pickers, flyers, healds,

. . . . . .

which furnish implements and materials. Only a person engaged in the trade could successfully plot it out, and the space required for stating the results could not be spared in this volume. A careful study of the *Manchester Directory*, or of works named in the footnote, will enlighten the reader as to the extent of the division of labour in the great cotton industry. Somewhat corresponding, and yet far from identical, schemes would have to be drawn out for the woollen, flax, silk, jute, and other textile industries.

In some trades we shall be perplexed by the fact that the components of a finished article are separately furnished by many co-ordinate trades. Thus, the hat-maker is supplied by the hatters' furrier, the hat-plush maker, the hat-band maker, the

hat-trimming maker, the hat-tip maker, the hat dyer, the hat-varnish maker, the hat-box or bandbox maker, besides such strictly subsidiary trades as the hat-kiln maker, the hat-block maker, the hatters' bowstring maker, etc. The industrial history of a book would be a perplexing and delicate one. Is the author a subsidiary trade to the publisher or the publisher to the author? As to the material of the commodity, indeed, the rag collector or the esparto importer might put in a strong claim of priority. The printer also would probably say that he was the real maker of the book, and would point to the legion of trades distinctly subsidiary to him, not only the paper maker and dealer, but also the machinist, the typefounder, . . . the printer's carpenters, the printer's smiths, the printer's brokers, who supply the . . .

CHAPTER XXIV

Mill on Capital

While treating the subject of Capital it is indispensable to explain the grave errors and confusion into which so recent a writer as the late Mr. J. S. Mill fell concerning this subject. I have already had to point out the inconsistencies apparent in his definition of wealth and sundry minor blemishes in his work. The *Principles* might, nevertheless, be read as a treatise full of interesting and useful remarks and illustrations, were it not that on the subject of capital there is hopeless misapprehension, leading to the natural result of misguided ingenuity—namely, sophistry. Mill never seized the true idea of capital at all, and, as the theory of capital underlies all the more advanced and complex operations of industry and finance, the effect upon the general principles of the work is very unfortunate. Criticism is all the more requisite, inasmuch as Mill's statement of the theory, although erroneous, is very plausible and persuasive, and inevitably leads the unprepared student into a maze of conflicting ideas, from which it is truly difficult to emerge.

Mill's exposition of the theory of capital is partly given in a preliminary chapter,[1] to which comparatively little objection can be made, but chiefly in a long and celebrated chapter following it, and containing four Fundamental Propositions concerning capital. I have heard of a philosopher who expounded a new science in six theorems, all false; but here we have a near and serious approach to such a paradox. Mill expounds the theory of capital in four Fundamental Propositions, all false.

[1] 1886, 9th ed. vol. i. Book I. chap. iv. *Of Capital.*

The exact manner and degree of falsity will be the subject of our inquiry. The results which will emerge may be described as follows :—The first proposition is only true under explanations which quite reverse its apparent meaning ; the second and third propositions are palpably inconsistent, even in the opinion of the expounder, but are reconciled by him with a false qualification ; the fourth proposition is a false corollary, naturally emerging from false principles. It is so evidently paradoxical and opposed to experience and common-sense, that almost all readers, as Mill allows, spontaneously reject it. Nevertheless it is supported by Mill with the aid of a series of complex and sophistical analyses of supposed industrial operations, the unravelling of which is a long and tedious piece of mental labour. It is not to be supposed, however, that the falsity of these propositions is due entirely to Mill ; on the contrary, they may be traced more or less distinctly to previous writers or to common opinion. His misfortune was that he failed to seize the underlying truth which would have enabled him to conciliate even apparent contradiction, and yet he had the persistency and ingenuity which led him to argue out the erroneous views until his readers and himself were alike lost in perplexities.

The First Fundamental Proposition

The first of the four Fundamental Propositions is to the effect "That Industry is limited by Capital." This is so obvious, says Mill,[1] as to be taken for granted in many common forms of speech. "To employ industry on the land is to apply capital to the land. To employ labour in a manufacture is to invest capital in the manufacture. This implies that industry cannot be employed to any greater extent than there is capital to invest. The proposition, indeed, must be assented to as soon as it is

[1] 5th ed. 1862, Book I. chap. v. People's ed. 1865, p. 39. This edition was reprinted 1900, by Longmans, *without* calling it *People's* edition, but retaining Mill's preface, which says it is a shortened edition of the sixth edition of his *Principles of Political Economy*, 1886, 9th ed. vol. i. Bk. I. chap. v. § 1, 2nd paragraph, p. 79.

distinctly apprehended." Nevertheless the proposition, as thus stated, approximates more to error than to truth. It gives the idea that a certain amount of capital is required for a certain amount of labour, which, if so, would make capital an exact proportional measure of industry. Nothing, however, can be more opposed both to fact and theory. The same amount of capital may support one man or a hundred men. It is entirely a question of the way in which the capital is used. A gold-digger seeking shallow alluvial gold wants only a spade and pickaxe, a prospecting dish, and a few weeks' food; his capital need not exceed five or ten pounds. But if he is to sink for the deeper leads, or to mine for quartz, his capital must be a hundred pounds or more per head. Similarly in every other branch of industry. A native of Cashmere spins and weaves wool into the finest Cashmere shawls with distaff, loom, and other simple tools worth a few shillings. To produce fine woollen goods in the English mode of manufacture requires a large expenditure of capital. Conveyance of goods can be effected in many ways: on the shoulders of bearing-men, as in the Andes or Thibet; on horseback; in boats; on canals; on railways. Each mode of conveyance involves a different proportion between labour and capital.

Without further explanation it will be apparent that the proposition ought to have been qualified somewhat in this way: Industry is limited by capital, and so long as the mode of employment is the same, capital employed will be proportional to the number of labourers employed. When rendered true, however, the proposition assumes very much the character of a truism. . . .

This proposition was certainly not invented by Mill; it was probably current doctrine at the time when he wrote. It is possible, however, that it may have been suggested to him by one of the powerful tracts of Jeremy Bentham,[1] where I find it most emphatically asserted thus: "I will tell you a great and

[1] *Emancipate your Colonies!* Addressed to the National Convention of France, Aº 1793 . . . 1830, p. 16. See *Works*, vol. iv. p. 411.

important, though too much neglected, truth. Trade is the child of capital; in proportion to the quantity of capital a country has at its disposal will in every country be the quantity of its trade." And again, p. 17: "Yes, it is quantity of capital, not extent of market, that determines the quantity of trade." It ought to be apparent, however, that such assertions may be practically true as regards any particular condition of industry, but may be false when expounded as the fundamental propositions of a theory of capital. Mill's error is the less excusable when we find that the truth is well set forth by Adam Smith and other economists. Thus, on about the third page of the *Wealth of Nations*, Smith, in sketching out the plan of his great work, remarks that "the number of useful and productive labourers, it will hereafter appear, is everywhere in proportion to the quantity of capital stock which is employed in setting them to work, and to the particular way in which it is so employed." These last words contain precisely the qualification which was overlooked by Mill. I might also point to Malthus as giving a perfectly clear statement of the fact that in a large class of industries the proportion which the value of the capital bears to the quantity of labour which it employs is very small. A capital of a hundred pounds, says Malthus, which was returned every week, could employ as much labour annually as £2600, the returns of which came in only at the end of the year; and if the capital were returned nearly every day, as it is practically in some few cases, the advance of little more than the wages of a man for a single day might pay above three hundred days' labour in the course of a year.[1] This view of the matter is so obviously correct that it is needless to say more.

The Second and Third Fundamental Propositions

The second and third propositions which Mill adopts as the basis of his theory of capital are both plausible truths when

[1] Malthus's *Principles*, chap. ii. § 4, p. 93.

separately stated. Mill says, "A second fundamental theorem respecting capital relates to the source from which it is derived. It is the result of saving." Perhaps we may even say that the proposition really is true and correct, except when read in connection with the third proposition, thus expounded and immediately commented on by Mill himself: "A third fundamental theorem respecting capital, closely connected with the one last discussed, is that, although saved, and the result of saving, it is nevertheless consumed. The word saving does not imply that what is saved is not consumed, nor even necessarily that its consumption is deferred, but only that, if consumed immediately, it is not consumed by the person who saves it. If merely laid by for future use it is said to be hoarded, and, while hoarded, is not consumed at all; but if employed as capital it is all consumed, though not by the capitalist."

Here is indeed paradox, if not absolute contradiction. Capital is the result of saving, but it is nevertheless consumed, and even immediately consumed. But to save is surely to keep for a certain length of time, so that the doctrine amounts to saying that commodity may become capital, but may nevertheless be immediately consumed and not saved. The contradiction is, in fact, so palpable that Mill explains it away on a side issue, introducing the qualification that if consumed immediately it is not consumed by the person who saves it. If employed as capital, he further explains below, it is all consumed, though not by the capitalist. Part is exchanged for tools or machinery which are worn out by use; part for seeds or materials. . . . The remainder is paid in wages to productive labourers, who consume it for their daily wants. Mill, in stating this view, proceeds to enlarge upon the necessity of paying attention to the most elementary truths of the subject. He thinks that this is one of the most elementary truths, and yet most people are not willing to admit the truth when first stated. "To the vulgar it is not at all apparent that what is saved is consumed." The fact, however, is that the whole doctrine is a mistake of Mill's,

and that "the vulgar" are quite right in not seeing how a thing can be saved and yet consumed. The contradiction is complete and real.

Mill altogether overlooks the fact that the saving is not in the commodities consumed, but in the durable work produced. If a farmer makes a new road to his farm, the food of the labourers is unquestionably consumed, and tools and barrows may be worn out. But the saving is in the road, where the labour is embodied and not really consumed but after years of work. Whether the farmer consumes his own capital, or gives it to other labourers to consume, is a detail which has no bearing upon "most elementary truths" of the kind under notice. Mill himself remarks in the previous chapter[1] that the capital needs not necessarily be furnished by a person called a capitalist. "When the labourer maintains himself by funds of his own, as when a peasant farmer or proprietor lives on the produce of his land, or an artisan works on his own account, they are still supported by capital—that is, by funds provided in advance. The peasant does not subsist this year on the produce of this year's harvest, but on that of the last." It must be apparent, however, that whether the subsistence be provided by a capitalist farmer or owned by the peasant proprietor does not affect the period for which it must be provided in advance. We might conceive a peasant in the Sandwich Islands owning a bread-fruit tree which provided him with bare subsistence all the year round. If this peasant used such subsistence to enable him to build a good house, improve his farm, plant new bread-fruit trees, and otherwise work for the future, he would be creating capital. The fruit of the tree would be put to the purpose of capital, and would be consumed immediately that it was ripe. But the saving would be in the improvements of the farm. Had the peasant, on the other hand, used his leisure time in amusement and riotous living, the bread-fruit would have been consumed in exactly the same

[1] 1886, 9th ed. vol. i. p. 73, Book I. chap. iv. § 2, 4th paragraph.

way, but there would be no saving and no question of capital in the matter.

The whole responsibility for the contradiction between the second and third propositions does not rest upon Mill, for we find that Adam Smith states the paradox in the clearest and briefest way, saying, "What is annually saved is as regularly consumed as what is annually spent, and nearly in the same time too, but it is consumed by a different set of people."[1] Malthus, moreover, quotes and approves this view, and indeed suggests some of the ideas worked out by Mill.[2] But a careful reading of Smith's chapter will show that it agrees with the view here adopted rather than that of Mill. In the first paragraph Smith points out that the labour of a menial servant adds to the value of nothing, but the labour of the manufacturer fixes and realises itself in some particular subject or vendible commodity, which lasts for some time at least after that labour is past. "It is, as it were, a certain quantity of labour stocked and stored up, to be employed, if necessary, upon some other occasion." Here is a precise statement of the way in which capital is saved and invested. The saving is measured by the interval of time during which the labour is thus stocked and stored. . . .

Mill's Fourth Fundamental Proposition

It is, however, the celebrated fourth fundamental proposition which appears most paradoxical, so opposed, in fact, to commonsense that Mill introduces it as one "which is, perhaps, oftener overlooked or misconceived than even any of the foregoing."[3] In the third paragraph he allows that it is a proposition which greatly needs all the illustration it can receive. "It is, to common apprehension, a paradox; and even among political economists of reputation I can hardly point to any, except Mr.

[1] Book II. chap. iii. Rogers's ed. vol. i. p. 341.

[2] Malthus's *Principles*, ch. i. § 2, p. 31.

[3] 1886, 9th ed. vol. i. p. 99, Book I. chap. v. § 9, paragraph 1.

Ricardo and M. Say, who have kept it constantly and steadily in view." The proposition itself is given in the following terms :—

"What supports and employs productive labour is the capital expended in setting it to work, and not the demand of purchasers for the produce of the labour when completed. Demand for commodities is not demand for labour. The demand for commodities determines in what particular branch of production the labour and capital shall be employed ; it determines the *direction* of the labour; but not the more or less of the labour itself, or of the maintenance or payment of the labour."

Surely a time must come when readers will wonder that such sentences could be penned. The statements are throughout entirely opposed to facts, let alone theory. They imply that capitalists will maintain and pay for labour whether or not there is a demand for the commodities produced. They imply that production goes on independently of the use to which the produce is to be put. "Demand for commodities is not demand for labour." Of course not precisely so. If I go and buy a table in Tottenham Court Road, I do not actually and personally demand the labour of the table maker, and pay it with my own hands. But there is no doubt that the table bought by me will be soon replaced by another, made, as a general rule, because I have bought the previous one. All the furniture there to be found ready made is made because, on the average, it is wanted as soon as purchasers have time to select it. If from any special reason purchasers remained away from the furniture shops, the employment of cabinetmakers would almost immediately be reduced to the same extent. All that the head cabinetmaker does is to employ his capital in having chairs, tables, and other things ready made, so that the purchaser can have them at once. But he proceeds on a definite calculation as to what the demand will be, and if any change in the rate of demand supervenes, he modifies his rate of production as soon as he is assured of the fact.

It might seem sufficient to point out these obvious facts and then pass on. But we cannot thus leave a dangerous fallacy in our rear. These views, however absurd, are to be found in Ricardo's book, before the time of Mill, and they are repeated in the most luminous way in Professor Fawcett's *Manual*,[1] succeeding Mill. Mill himself, too, argues the matter out at great length, filling thirteen pages of his *Principles* with illustrations which seem to prove the proposition and deductions which seem to follow from it. We cannot leave this matter in doubt or confusion. As Mill remarks, "It is no wonder that political economy advances slowly, when such a question as this remains open at its very threshold." I feel therefore obliged to examine in some detail Mill's own illustrations.

Presenting another phase of the same fallacy, Mill holds that "a person who buys commodities and consumes them himself does no good to the labouring classes; and that it is only by what he abstains from consuming and expends in direct payments to labourers, in exchange for labour, that he benefits the labouring classes or adds anything to the amount of their employment." This clearly implies that the capitalists will employ labour whether I buy their goods or not: thus, if I pay labourers myself, there are both capitalists and myself as employers; if I buy from capitalists, there is one employer the less. But, of course, Mill overlooks the fact that if the capitalists lose my custom they must find some other customer to replace me, or else leave off producing and throw labourers out of employment. But this obvious fact is mystified by the details of a laboured illustration. Mill imagines a consumer who spends his income either in hiring journeymen bricklayers to build a house or in buying velvet. I will simplify the matter as much as possible without, I hope, misrepresenting the argument. Those from whom Mill differs say that as regards the labouring classes there is no important difference between the two cases; in the one case bricklayers, in the other velvet weavers are employed.

[1] Book I. chap. iv. 2nd ed. p. 24; 3rd ed. p. 21.

Mill contends, however, that in this last case of velvet making he does not employ labourers, but merely decides in what kind of work some other person shall employ them. To the labourers it might seem that the difference here insisted on is little more than nominal, provided they are employed. But Mill manages to discover that more are employed in the former than in the latter case, in this way: "The very sum which the consumer now employs in buying velvet formerly passed into the hands of journeymen bricklayers, who expended it in food and necessaries, which they now either go without or squeeze by their competition from the shares of other labourers. The labour and capital, therefore, which formerly produced necessaries for the use of these bricklayers, are deprived of their market, and must look out for other employment; and they find it in making velvet for the new demand. . . . There was capital in existence to do one of two things—to make the velvet, or to produce necessaries for the journeymen brickmakers; but not to do both. It was at the option of the consumer which of the two should happen; and if he chooses the velvet, they go without the necessaries."

The reader, however, who will take the trouble to analyse this argument with sufficient care, referring if possible to the original text, will discover that Mill has overlooked the need of weavers for food. They require to be fed as well as bricklayers, though perhaps not quite so much. Now, if Mill traces the wages into the hands of the food-producers in one case, why not in the other? The bricklayers, being unemployed, may occupy themselves in producing food. It is true that in certain modes of employment capital is required for this production, and here we get to the germ of truth in Mill's proposition. If men are to work in the advantageous modes which capital renders possible, they must have capital formed in some way as a prerequisite. But the unemployed bricklayers may betake themselves to some mode of getting food — fishing, for instance, which needs very little capital.

But even conceding that there is here a difficulty, and that a

supply of capital is really needed, it is easy to turn the tables by pointing out that when a man employs bricklayers directly he really acts as a capitalist. It needs a considerable interval of time to complete a piece of brickwork or building of any great extent, and while the work is going on no good is derived from it. Capital, therefore, is sunk during this interval. To put the velvet-making and the bricklaying on a par, we ought to suppose that when the consumer wants brickwork he finds it done to his hand by a capitalist builder. It is a mere accident of the bricklaying instance that we have to wait while it is being done, whereas velvet, being a portable commodity in general demand, can be got ready and held ready in stock. Now if, to put the cases on a par, we imagine that there is a capitalist builder who gets ready just the walls and other work which the consumer is going to need, we may thus sum up the state of things. There is, first, a consumer with income ; a body of velvet-weavers ; a master velvet-maker with capital ; a body of bricklayers ; and a master bricklayer with capital. If the consumer abandons the use of velvet and begins to want buildings, he throws velvet-makers out of employment and sets free the velvet-making capital ; but he puts into employment an approximately equal number of bricklayers with the capital necessary for their sustenance. If such capital is not forthcoming otherwise, the consumer really finds it by waiting for the work to be done and paying the men in the meantime. As to the food producers, it will need no argument to show that they are an irrelevant element in the illustration, being equally needed for velvet-makers or bricklayers.

This view of the case becomes the more plain when we read the next paragraph of Mill's exposition, in which he traces the result of discontinuing expenditure on velvet in favour of employing the *same* annual sum in hiring bricklayers. This change sets free the capital of the velvet-makers, of which Mill says, " It is a second fund. There are therefore two funds to be employed in the maintenance and remuneration of labour where before

there was only one. There is not a transfer of employment from velvet-makers to bricklayers; there is a new employment created for bricklayers, and a transfer of employment from velvet-makers to some other labourers, most probably those who produce the food and other things which the bricklayers consume."

In this passage *two funds* are spoken of as if they were funds of the same nature, whereas a little examination shows that one sum is an annual sum, or income, or revenue, as Adam Smith would have called it, whereas the other fund is a capital stock, probably at most equal to one year's income of the revenue. This capital stock can indeed find support for workmen year after year, because, while all goes well, the goods produced one year are sold before the next. The capitalist turns over his capital, as the expression is, year after year, so that to the workmen it forms an annuity. But observe that unless there is the consumer ready with his annual sum to refund the advances of the capitalist, the whole thing stands still. It all comes to this, then, that the function of the capitalist is merely to set the workmen in motion beforehand, and to maintain them while making the velvet or other goods, so that the consumer when he goes into Tottenham Court Road may find them ready to his hand. But the whole purpose and end of the business is to meet the demand of this or some equivalent consumer. The capitalist is merely a kind of assistant in the process, anticipating for his own profit the wants of the consumer. As Scrope has well asked: "Can Mr. Mill really believe that the labour spent by the whole building trade of London . . . has not been paid for by the vast sums of money for which these houses have been sold? Can he suppose that the builders have built them all out of their own pockets, instead of acting merely as intermediate agents between the working tradesmen and the purchasers, paying out with one hand what they took in the other?"[1] Scrope has well, but briefly, explained the fallacy involved in this fourth fundamental proposition, and he has

[1] Scrope, *Political Economy*, 2nd ed. p. 120.

also pointed out how mischievous the fallacy is in inculcating the idea that consumers may "do good" to the labouring classes by certain modes of expenditure, which are apt to be the most extravagant and useless modes. As he mentions, W. R. Greg, in the *Pall Mall Gazette*, called attention to the mischievous tendency of such teaching.[1]

It is right to notice that Mill, not satisfied, apparently, with the cogency of his first long illustration, produces two more illustrations—one in the text and the other in a long footnote which he appended to the third edition. If, instead of laying out a hundred pounds in wine or silk, I expend it in wages or in alms, the demand for commodities, he thinks, is precisely equal in both cases. In the one it is a demand for so much wine or silk; in the other for the bread, beer, and other maintenance of labourers. But nothing is said about the bread, beer, and maintenance of the silk-weavers or vineyard labourers. The same kind of fallacy affects the long and complex illustration given in the note, with an analysis of which I cannot venture to fatigue my readers. The whole doctrine is fallacy, and mischievous fallacy, from beginning to end—not only mischievous in the false practical conclusions to which it might lead, but mischievous also in regard to the erroneous views of capital which it involves. Mill wholly fails to bear in mind, even if he ever apprehended the fact, that capital is nothing but *advances* —the *avances* of the *Physiocrates*. It bridges over the interval between labour and consummation in enjoyment. All is done for the consumer and must be paid for by him. Sometimes the rich man may act as his own capitalist. Thus, a former Duke of Devonshire, instead of buying ready-made statues, maintained a sculptor in Italy, who was constantly employed in producing the choice copies of antique sculpture now at Chatsworth. It is obvious that, in so paying in advance and waiting for the statues, he liberated capital which some sculptor must otherwise have temporarily invested.

[1] January 1873.

Scrope has mistakenly attributed the doctrine of this fourth fundamental proposition to Mill as its first author. The doctrine, however, appears to be due to Ricardo,[1] whom Mill mentions as constantly bearing the doctrine in mind. Senior carefully controverted Ricardo's views,[2] and gives good reasons for thinking that the "good done to labourers" is done rather by those who buy commodities than by those who surround themselves with servants and retainers.

For a full and able discussion of Mill's fundamental propositions the reader may be referred to an article by Sir Anthony Musgrave, then Governor of South Australia, now Governor of Jamaica.[3] I cannot accept all the views of the critic, but his criticisms on Mill are often very telling, and it would be difficult to treat the fourth proposition more to the point than Governor Musgrave does in the following words:— "The proposition is a sophism, and Mr. Mill's treatment of it is most sophistical. Of course, a commodity is not the same thing as labour. A commodity is the product of labour now expended and dead, and the commodity remains in place of it. Water is not a pump. A demand for water is not, in the first instance, a demand for a pump; if water is to be obtained from a bucket already supplied there is no demand upon the pump; but if none can be obtained but from the pump, then, in fact, a need for water does most emphatically make a demand upon the pump-handle." This hits the point precisely. If goods are in Tottenham Court Road the consumer does not go direct to the producer; but the goods are there because the consumer is expected to come and buy them, and if they were not there he would have to go direct with his demand to the pump-handle—that is, the factory.

[1] *Principles*, 3rd ed. chap. xxxi. pp. 475-482. This chapter does not occur in the first edition nor in the second.

[2] Reprint, pp. 170-174. *Ency. Metrop.*, pp. 200, 201; 2nd ed. 1850, pp. 170-174.

[3] *Contemporary Review*, October 1874, vol. xxiv. pp. 728-749. Reprinted in Musgrave's *Studies in Political Economy*, 1875, 8vo, pp. 55-102.

CHAPTER XXVIII

Negative Value

ALTHOUGH few economists have noted the fact, much less developed the theory, there can be no doubt that many things possess *negative value*. Evidently as positive value stands related to the utility of commodities, so negative value stands related to the disutility of discommodities. As there are many things of which we want more, so there are almost as many things of which we want less, because we have already too much. We incur labour or spend money in planting cabbages because cabbages possess positive value; similarly we incur labour or spend money in removing weeds which have negative value. Timber in a Liverpool timber-yard is wealth; timber standing on a homestead in the far west is serious discommodity. The sewage, cinders, and especially the night-soil of a house are discommodities, especially in large towns, because under our present arrangements a good deal of cost has to be incurred in getting rid of them without injury to health. The spoil or broken stones and earth proceeding from a quarry, the "deads" of a Cornish mine, or the rectangular masses of slag from a blast furnace, are discommodities. Land has often to be bought to place such masses of waste upon, and there is the further cost of labour in removing them. . . .

It is a great merit in Mr. Macleod that he was perhaps the first of English economists to insist upon applying the conception of sign to economic quantities. This he did as early as

1862.[1] As in all mathematical and physical sciences, the whole science comprehends both positive and negative quantities, so he holds that the whole science of economics comprehends both positive economic quantities and negative economic quantities. He appears, however, to apply this distinction chiefly to the case of credit and debt, of which we shall treat later on. But debt is a negative quantity, having no immediate relation to the negative value founded on disutility, of which we are here treating. De Morgan has professed his inability to understand Mr. Macleod's views on this point, and has treated them as a paradox,[2] and it must perhaps be allowed that Mr. Macleod has not exactly understood his own meaning. . . .

By far the most important instance of negative value is labour, the economic quantity of which we shall treat at large further on. Labour in the economic sense of the term is essentially disutility, because it involves painful exertion ; it is that which we give in production in order to obtain commodities. The labour given is painful to the giver, pleasurable in its results. In the case of personal services not resulting in concrete wealth, the service should produce immediate benefit to the receiver. Thus the crossing-sweeper incurs tedious labour to ward off inconvenience and discomfort from the wayfarer. A penny is the equivalent of his services. In some cases there may be exchange of services, as when . . .

Zero Value

As there exist things of every degree of positive and negative value, it follows that there must also exist, at least approximately and theoretically, the intermediate case of zero value. The scale of value passes through zero and stretches indefinitely in both

[1] *On the Definition and Nature of the Science of Political Economy*, British Association, Cambridge, 1862, *Trans. of Sections*, pp. 159-161 ; *Economical Philosophy*, vol. i. p. 176 ; *Economics for Beginners*, p. 70.

[2] *Budget of Paradoxes*, p. 372 ; *Athenæum*, 15th November 1862, No. 1829, p. 632.

directions. Any object which does not affect our interests in the least degree, and is thus entirely devoid of utility, must also be devoid of value. The greater part of the surface of the earth which we have never visited, and probably never shall, must be of zero value. What imaginable economic relation can there be, for instance, between a London inhabitant and a lump of ice floating in the Antarctic seas? Much that is nearer home will also be of zero value, probably and approximately—the rocks of a Welsh mountain or the stones and heath of a distant moor.

There is a good deal of matter, however, which, in a rich, thickly inhabited country like England, is apt to oscillate about zero without being altogether valueless. Thus, in making a railway, road, or canal, earth and other materials are deficient in some places and superabundant in others, according as cuttings and tunnels or embankments are to be made. Much of the skill required in making a good line economically consists in balancing excess against defect; but this cannot always be done. In large towns, too, dry rubbish and cinders are sometimes and in some places in request, and sometimes in excess, so that money has to be paid for carting them away, and, it may be, a small charge for liberty to deposit them on land. In Scotch towns a portentous notice is sometimes seen placed upon a vacant plot, indicating that it is "a free toom." This does not mean that you can be buried there free of cost; it is what in England would be called "a free tip," which means an invitation to tip rubbish there free of charge. In Manchester and other large manufacturing towns cinders oscillate closely to zero value. It is usual for carters returning with empty waggons to call at factories and take loads of cinders away, which they dispose of in the suburbs or neighbouring country for road-making; but according as the supply of cinders or of freight predominates, a small sum of money—3d., 6d., or at most 1s.—is made *for* the cinders, or made *with* the cinders—that is to say, given with them to pay part of the expense of cartage. There frequently

occurs also the intermediate case, when the cinders are simply given away to the carter.

A very different kind of commodity from cinders has also at one time been subject to a like scale of value. According to Herodotus[1] the Babylonians managed to find husbands for all their young women. They collected together whatever maidens might be of marriageable years and sold them by auction, beginning with those esteemed the most beautiful. They gradually proceeded downwards in the scale of comeliness until some damsel equi-distant between beauty and plainness had to be given away gratis. Then the plain and the ugly and the deformed were brought out by degrees, and the bidding went on; but in the other way, the premiums obtained for beauty being spent as dowries for the less favoured. All the women found husbands, and all the husbands found what they desired. Many readers will remember Mr. E. Long's pathetic picture of "The Babylonian Marriage Market."[2]

[1] *Clio*, i. 196.

[2] Blackwood's *Academy Notes*, No. 1, 1875, p. 34.

CHAPTER XXXIV

Insurance

Friendly Societies

At first sight it is impossible not to feel satisfaction at the immense numbers of Friendly, Industrial, and Provident societies of various sorts which are supported by the working classes. A considerable Blue-Book is required to give the most meagre information about them. In all, there would appear to be about 26,924 registered societies, including 5,588,150 members, owning £41,601,287 of funds. The number of societies and members would give us the idea that the English working classes were a most provident people; but the amount of funds, barely £7 per member, shows but a poor result for so much association. Were we to look into details our satisfaction would be still further abated. So readily do the English poor part with their small surplus, that it needs only a man of insinuating address with plenty of forms and account-books to lead them to subscribe to almost any society, provided, indeed, that the subscription asked for at any one time is counted in pence rather than shillings. In some of the societies the expenses of collection and management sweep away a large part of the funds, 25 per cent being quite an ordinary allowance for this expenditure, and 50 per cent not unknown. Out of forty societies whose assets and liabilities were valued in 1878, just half were found to have deficiencies aggregating to £197,535, the surpluses of the remaining half amounting to £84,344. It is to be feared that these forty societies form an

altogether too favourable specimen of the 27,000 registered societies, very many of which must be utterly insolvent. It may well be considered a fair question for discussion whether such a state of things should be passively regarded by the Legislature.

The principal point of the matter is that the estimation of assets and liabilities in provident societies of this sort is a matter of extreme difficulty. Only experts who combine high mathematical powers with much business knowledge and experience can attempt the work, and they often differ upon points involving extra-mathematical considerations. It must be apparent, therefore, that the poor customers of such societies, the so-called members, must be utterly incompetent to form any sure ideas about the solvency of the societies to which they subscribe. This circumstance seems to bring friendly societies into the category of things which may properly fall under the inspection of the Government expert. Such intervention already exists to a certain extent under the Friendly Societies Act. Registration is indeed voluntary, and multitudes of societies may exist of which there is no official record. But when the 27,000 already registered are effectively dealt with it will be time to think of unregistered societies. The law requires annual returns, but so lax is the state of things that in 1878 only 14,366 returns were received by the Chief Registrar, being little more than half what were due. Probably many of the defaulting societies have really ceased to exist, having died a natural death. The Chief Registrar has powers of inspecting, investigating, and, if necessary, dissolving societies, under conditions defined by the Act. These powers, though in frequent use, can make little impression upon such an immense list. They amount, moreover, to little more than the winding up of bankrupt associations. The Registrar has no power to interfere of his own accord while the rules are yet unsettled or the funds intact. There is nothing to prevent the squandering of funds until at length only a small fraction emerges for the

benefit of the subscribers. It is a great question whether a society whose expenses of management practically absorb the funds is not really a fraudulent society, and whether the Chief Registrar or the Public Prosecutor should not be armed with large powers for intervening, and, if necessary, putting a summary stop to the affair.

The question of Government intervention in the proceedings of such societies is, however, one of the most puzzling in the whole range of social economy. For if the Government so much as examines the accounts, or holds any of the funds, there arises at once in unreasoning minds the idea of a State guarantee. Misapprehensions of this sort have always existed concerning the Trustee Savings Banks, the fact that the National Debt Commissioners hold the greater part of the funds of such savings banks being confused with general responsibility. The State will be sure to repay whatever the trustees deposit with them, but has never in any degree guaranteed the fidelity or prudence of the trustees. Such savings banks have, however, failed before now, to the great surprise and disgust of the depositors. Those, too, who know how commonly the Government stamp on patent medicine bottles is regarded as a State guarantee of the efficacy and genuineness of the contents will be chary of creating further like impressions which cannot be fulfilled.

In proportion, then, as the State becomes the general auditor of Friendly Societies it assumes responsibility, and it would be obviously monstrous that any kind of countenance should thus be lent to societies which practically eat up their own funds in the process of collection and distribution. Even Government management, costly and often inefficient as it is, would be better than this. The unified expenses of a universal Government Friendly Society would be far less, one would think, than the aggregate expenses of some 20,000 societies, not a few of which are vast federations having coextensive collecting agencies all over the country. But, on the other hand, unless the Govern-

ment makes a monopoly of the business and excludes competitors, it can never offer terms which will compare with those of reckless or fraudulent societies. In the Post-office Insurance and Annuities system, the details of which are explained in every copy of the *Post-Office Quarterly Guide*, or can be learned at any post-office, we see the utmost that a Government can offer as a safe financial basis. In spite of the post-offices which act as agencies, this branch of post-office business is a practical failure. A State department cannot employ insinuating canvassers to go from house to house to persuade the poor to part with their pennies. It can only make a public offer, or at the most a public order. It might perhaps be said, in fact, that the post-office only succeeds where it is protected by its legal monopoly. The Post-office Money-order system, although practically conducted without profit, is being slowly but surely beaten by private agencies; and the progress of the Savings Bank Department, though very satisfactory in itself, does not for a moment bear comparison with the general progress of banking institutions.

Monopoly, then, is an almost necessary condition of success in any attempt at replacing the Friendly Societies. But when we think of the immense amount of private energy which is called forth in the establishment and management of these innumerable societies, and the educating and indirectly beneficial influence which they must in many ways exert, we cannot for a moment contemplate the idea of destroying such associations in general. Even when the Combination Laws against Trade societies were most severe, Friendly societies were allowed, if not encouraged, by the law. They represent the inherent tendency of the Anglo-Saxon character to union and self-government. The poet says—

> "'Tis better to have loved and lost
> Than never to have loved at all."

May we not say of many of the friendly societies which figure in the Registrar's list, that it is better to have saved and lost

through those self-managed guilds than never to have saved at all?

Under these circumstances, anything like drastic legislation or the extensive intervention of a State department appears to me to be out of the question. The solution of the question, on the side of the Legislature, will probably be found in a gradual tentative increase in the powers of the Chief Registrar and his subordinates. I should like to see the Registrar entrusted with the arbitrary power of visiting and auditing the accounts of any society, and declaring it insolvent or fraudulent if found to fall within certain conditions. He should also be furnished with a larger staff, in order to render the exercise of these powers practicable. He should, in short, in regard to the societies registered by him, unite the functions of a public prosecutor to those of a bankruptcy judge.

Probably more might be done by the volunteer action of some association like that proposed at a conference of the Society of Arts in 1878, for forming a national alliance of registered friendly societies. . . .

A good deal may be said upon the question whether trade societies are the best associations to insure workmen against intervals of sickness and misfortune. Here we see both advantage and disadvantage. Since each kind of occupation is subject to its own risks of sickness and accident, it is fair that the members of an insurance society should pay neither more nor less than the actuarial value of these risks, which can be most accurately effected within a trade society.[1] On the other hand, there are inconveniences in this restriction of area, because any mistake in the rates charged or any change or depression of trade will more seriously affect a society the members of which all belong to that trade. It is of the essence of insurance to procure an average free from simultaneous risks. It must not escape notice, however, that though multitudes of insurance and friendly societies of all sorts, not

[1] Walker *On Wages*, 1876, p. 401.

to speak of the Post-office system, are ready to insure a man's life or support him in sickness, only a trade society can possibly undertake to support him when out of work. This obviously arises from the fact that only his brother workmen can form a sure judgment whether he is out of work from causes beyond his own control or is merely skulking. How few men would be at work if they had an annuity as long as they did not succeed in finding employment! But the secretary of a trade society can offer employment to a member on "donation benefit," and whether accepted or not the benefit ceases. Though it would be much better that workmen should, to a vastly greater extent than is done at present, insure themselves against failure of employment by saving and laying up a private store of money, yet the support of the union must often be a great blessing. Thus, the Amalgamated Carpenters' Society gives a donation benefit of ten shillings a week for twelve weeks, and a further benefit of six shillings for twelve weeks more.

On the other hand, it must be apparent that the prospect of such benefits from a trade society with emigration, superannuation, sick, accident, and funeral benefits in the background, not to speak of the legal right to parish relief, must have a most deterrent effect upon the practice of private savings. As unionists often tacitly allow, the system of union saving and private saving are almost incompatible. He who pays his society subscription, and knows that he may at any time have to pay extra levies, is hardly likely to think he has much to spare for the Postal Savings Bank.

No doubt the worst point of all is that even the unions do not save funds adequate to meet the real charge of sickness and superannuation. Conclusive evidence was given before the Trades' Union Commission of 1867 [1] that the great trade societies selected as specimens were not really solvent according to strict actuarial principles. This insolvency is, of

[1] See vol. ii. 1869, *Appendix G.*, pp. 193-220, and the references in the *Digest of Evidence*, p. 12.

course, made far more serious by the fact that all funds are merged together in the coffers of the union. Any sum may, at the discretion of the committee, be taken for "trade purposes"—that is, to support strikes. Even then, if a society were solvent as regards its insurance business at one moment, the next great strike might render it entirely insolvent according to ordinary business procedure. It would immensely add to the reputation of the great societies if they would remedy this reproach against the system by separating the insurance fund, and placing it in the hands of trustees under a strict settlement for the benefit of the insured members. Trade purposes might then be provided for by a separate subscription, with levies when required.

It must be apparent, however, on a little consideration, that the whole policy of trade societies must be against such separation. The whole system of unionism depends, not upon nice questions of finance, but upon the trade brotherhood of the members. No club is insolvent so long as there are members able and willing to put their hands into their pockets, and this is what will be done so long as the *esprit de corps* is sufficient to hold the society together. The nice calculations of the actuaries are beside the point. First of all, it is found that a large number of members for one reason or another leave the societies and never claim the benefits; and, secondly, when the funds fall too low there is unlimited power of levying additional subscriptions. Moreover, the principal trades unions have given the most conclusive proof of solvency by continuing to exist and carry on their work under much the same rules for intervals of twenty, thirty, or more years. Experience, it may be said, proves their solvency. If we could institute a close comparison between trade insuring societies and the general run of friendly societies, there can be little doubt that, in economy of management and real solvency, the former would come out the victors. The close association of the members in their ordinary life, and the strong common interests by which they regard themselves as bound together, give an efficiency to the bond of association which is

totally wanting in mere collecting societies, and, it must be added, in many ordinary joint-stock companies.

The question has been mooted, for instance before the Commissioners of 1867, whether the State ought not to interfere in order to oblige unions to set apart funds for their insurance benefits. From what goes before, however, it must be apparent that such intervention is altogether impossible. Being opposed to the whole policy and system of such societies, it could only be carried out by suppression, which experience has shown to be alike impossible and inexpedient. An attempt at such intervention might possibly result in suppressing the insurance side of the society's action to some extent, but, as that is already better conducted than in the case of many friendly societies, the effect would be simply an evil one. Unionism is essentially a system which must be left to work out its own fruits. The more extensive and rich the societies become, the greater the number of members looking forward to superannuation and other benefits, the more careful and conservative will be the action of the committees. Unionists, like other people, will find out their own mistakes in the course of time, and any attempt at forcible instruction would only retard this time indefinitely.

CHAPTER XXXV

The Variation of Prices

It would be a matter of great importance, if it were practicable, to ascertain statistically the exact law of variation of price of the more important commodities. Assuming the demand to be constant, in the sense that there is a constant population of purchasers with fixed tastes, we should make the supply of commodity—say wheat, sugar, or tea—the *variable*, and then ascertain the changes of price, the *variant*.[1] Each kind of commodity would have its own peculiar law of variation, and the same law would not usually hold for different countries, or even different sections of the same country. As the variation depends, as already explained, both upon the law of utility in the individual and the constitution of the population as regards rich and poor, the whole matter must be treated empirically. The laws will not be laws of any generality; they will, in fact, be little more than compendious statements of numerical results. Even if thrown into the form of an algebraic equation, such an equation, when purely empirical in foundation, means only the individual results into which it may be resolved again. But it may seem rather needless to consider what these laws would be, inasmuch as we have not got them, and have no present prospects of getting them. As to the value of the laws, if we could determine them, there is little doubt. They would be practically important to merchants in judging of the probable effect of changes in supply; they would be theoretically important in

[1] Concerning these words see *Principles of Science*, chap. xx. 1st ed. 1874, vol. ii. p. 51, etc.

giving reality to the theory of exchange, and allowing us actually to trace out the effects of all kinds of variations in trade.

The difficulties in the way of such empirical determination of laws are so formidable that I entertain little hope of successful investigations being made for many years to come. In the case of most commodities we have no statistics of the supply worthy of confidence; nobody knows with the least approach to exactness how much fish, or butcher's meat, or potatoes, or milk, or poultry, or any common commodity is consumed. Even when we know the supply, as in the case of tea, sugar, and other imported commodities, the matter is complicated very much by the fact that prices depend upon the prospective state as much as upon the immediate state of the market. In practice the supply includes the visible supply for many months to come, or even for a whole year, and even if we have accurate present statistics these will not confine or define the speculations of merchants as to future events. Again, in the case of many commodities the variations of price are not independent; if cotton falls short, flax and wool take its place, and there are complicated reactions among the variations of separate markets which defy statistical analysis.

Many years ago, about the years 1861-62, I spent a good deal of labour in endeavouring to arrive at a rough determination of the laws of price of a few commodities specially selected for the purpose. Those articles, such as tea, sugar, and tobacco, which are wholly obtained from abroad, offered the best hopes of success, because, with the exception of smuggling in earlier years, the statistics of imports, and even of stocks held in bonded warehouses, are sufficiently accurate for our purposes. There is the further advantage that these commodities are in an unusual degree irreplaceable, tobacco wholly so, sugar likewise, and tea is only capable of interference by coffee or chicory. Although I formed as accurate tables of the prices, imports, and stocks of these articles for the last sixty or seventy years as perhaps could be obtained, new difficulties soon disclosed them-

selves. It became apparent that there had been a rapid growth in the taste for tea and tobacco, so that it was impossible to compare directly the state of the markets in 1850-60 with that of 1810-20, for instance. Then again, owing to the paper currency in the commencement of the century, and the subsequent great variations in prices generally, it became impossible to regard the tables of prices as real indications of the values affecting consumption.

General Laws of the Interaction of Prices

In spite of the failure of statistical science to aid us in these matters, there will not be much difficulty in perceiving the truth of two general laws concerning the effect of variations of price of one commodity upon the prices of other commodities. The first law is that the variation of price of one commodity will tend to affect in the same direction the prices of all like commodities. By like commodities we here mean those which are or may be used to satisfy the same wants. This effect arises simply from the substitution of one kind of food or fabric for another which serves the same purpose. A failure of the potato crop must drive people to eat more corn. When fish happens to be abundant, less butcher's meat will be demanded. Many commodities, indeed, are but the same matter in different shapes: there are no important chemical differences between wheat-meal and oat-meal; beef is chemically the same as mutton. . . .

A second equally important law is that the variation of price of any one commodity tends to affect in an opposite direction the prices of all different commodities—meaning by different those which serve different uses. When more money has to be paid for the supply of one article there will be less to spend on other articles. The most necessary wants must of course be satisfied first. Thus an important rise in the price of food soon occasions a decreased demand for the luxuries of the working

classes. The considerable trade in jet ornaments, for instance, is much affected. . . .

Articles of Joint Consumption

There is another way in which the prices of commodities affect the prices of different commodities in an opposite direction —namely, when they are consumed together in the same act of consumption. Most people, for instance, take sugar in their tea, so that if more tea is consumed more sugar will, on the whole, be wanted. But if the price of tea falls more tea will be used, hence sugar will tend to rise in price. Hops and malt being the components of beer, a high price of hops must imply a tendency to a fall in malt and barley, and hence of other kinds of corn.

Classification of the Causes of the Variation of Values

It must be a matter of considerable interest and importance to classify, or at least enumerate, exhaustively and regularly the principal causes which may affect the price of a commodity. We remember, of course, that price may be affected either by circumstances attaching to the commodity itself or to the measure of value in which it is estimated. Thus, if we first distinguish causes of variation according as they affect the supply or the demand for the commodity, there will obviously be four heads—namely, causes affecting (1) supply of commodity, (2) demand for commodity, (3) supply of measure of value, and (4) demand for same.

Values of Diamonds, Rubies, and Pearls

Some interesting facts concerning values are furnished by the trade in diamonds and other rare gems, such as rubies, pearls, etc. The very great stones, such as the Koh-i-noor, the Regent

diamond, and other historical stones, being practically unique and incomparable one with another, cannot be said to have any ascertainable values. The Koh-i-noor has never been sold, and though the Regent diamond was at one time purchased for £100,000, and other great diamonds have been purchased, the prices or estimates of value show no approach to rule or congruity. Like Cleopatra's Needle or the Elgin Marbles, no consideration of cost of production or utility can apply; the arbitrary fancy of some monarch or wealthy person is the only rule.

When we descend to more ordinary stones, however, competition is possible, and indeed constant, so that something like a market price emerges. It is of course obvious, indeed, that the purity, shape, colour, and freedom from any flaw or blemish must affect the value of each individual stone, of those at least which are large enough to be separately weighed and valued. It must be a matter of personal skill and experience in the diamond merchant to estimate all these circumstances. But as regards the relative values of equally good stones of different weights there has long existed a traditional rule. The principle laid down is simply that the price increases as the square of the weight. If we assume the price of rough diamond to be £2 per carat, then a stone of two carats weight will be valued at £8, the weight being first squared (2 × 2) and then multiplied into two, the price per carat.[1] The weight of a cut or manufactured stone is to be doubled before applying this rule, so that a one-carat cut diamond would be worth £4, and stones of two, four, and eight carats respectively £16, £64, and £256.[2] These rules are of considerable antiquity; though now generally connected with the name of Jeffries, who first drew up valuation tables on this principle, we find that Jeffries attributes the rule to a Spanish writer, John Arphe de Villa Fane, whose work on *The Standard of Gold, Silver, and*

[1] *A Treatise on Diamonds and Pearls*, by David Jeffries. London, 1750, 8vo, p. 7; 2nd ed. 1751, p. 7.

[2] Rees' *Cyclopædia*, art. "Diamond."

Precious Stones, was printed in 1572.[1] Practically, indeed, the rule has long been superseded; not only have prices much advanced since the days of Jeffries, but the purity and lustre of diamonds are considered to influence their value as much as mere weight. The values of stones under two carats vary as much as from £2 : 15s. to £5 : 5s. *per carat*. But, while a perfect one-carat stone might be worth £18, a five-carat one would probably sell for about £320, instead of £450, the proportional price according to Jeffries' rule.[2] Rubies are at least equal in value to diamonds, and are supposed to follow the same rule, and pearls are to be valued by the same rule, if by any, although their prices compared with diamonds are only as shillings to pounds.[3]

One obvious consequence of the influence of weights of gems upon their values is that such gems would form very inconvenient currency. It would not be possible to value a lot of stones by weighing them together, as a handful of similar coins may be weighed. Each stone must be weighed separately, except, indeed, in the case of very small or imperfect diamonds, which are only bought to be reduced to diamond powder, and to which a totally different principle of valuation therefore applies. Nor can we assign any distinct proportion of value between diamond and gold; for though, if we take a one-carat perfect diamond to be worth £15, the gem will be worth 460 times as much as gold, weight for weight, yet the ratio will be entirely different in the case of larger stones.

[1] Jeffries, 1st ed. p. 56; 2nd ed. 1751, p. 124.

[2] Jeffries, 4th ed.; corrected to the present time (1871), 12mo, pp. 3, 4.

[3] *Ibid.*, pp. 78-80.

RICHARD CANTILLON AND THE NATIONALITY OF POLITICAL ECONOMY

(From the *Contemporary Review*, January 1881. See Preface, pp. ix.-xiii.)

RICHARD CANTILLON AND THE NATIONALITY OF POLITICAL ECONOMY

DILIGENT readers of the *Wealth of Nations* will probably remember that Adam Smith once in a way quotes a certain Mr. Cantillon. Hereby hangs a tale, and a tale full of errors, mysteries, and enigmas. Adam Smith quoted so few previous authors that to be mentioned in his pages ensures a kind of immortality. Nevertheless Cantillon has been very unfortunate. Not only was his life prematurely ended by fire or knife, but a series of adverse literary accidents has almost entirely obscured his name and fame.

If, wishing to know more about Cantillon, we turn to that useful but often inaccurate work, M'Culloch's *Literature of Political Economy*, we find (p. 52) some description of a book called *The Analysis of Trade, Commerce, Bullion, etc.* By Philip Cantillon, late of the City of London, Merchant. (1 vol. 8vo, London, 1759.) M'Culloch goes on to remark of this book that "the author adopts several of the views of Hume, whose Political Essays were published in 1752. His principles are for the most part liberal, and some of his speculations display considerable ingenuity." Here the filiation of ideas seems to be evident. Cantillon adopted the views of Hume, whose essays, according to his biographer Burton, form the *Cradle of Political Economy*. "Much as that science," says Burton, "has been investigated and expounded in later times, these earliest, shortest, and simplest developments of its principles are still read with delight even by those who are masters of all the literature of

this great subject." I am far from denying that "a master of all the literature of political economy," if such a wonderful creature can be imagined, might read the essays of Hume with delight, and he might also possibly agree with Professor Huxley that Hume was in political economy, as in philosophy, "an original, a daring, and a fertile innovator." But he could not possibly allow that Hume's Essays of 1752 are "the earliest, shortest, and simplest developments of its principles"; nor could he fall into M'Culloch's blunder of supposing that the Cantillon quoted by Smith owed anything to Hume.

M'Culloch is much to be blamed in this matter, for, had he examined the title-page of the so-called *Analysis of Trade*, he would have seen that the contents of the book purport to be "Taken chiefly from a Manuscript of a very ingenious Gentleman deceas'd, and adapted to the present Situation of our Trade and Commerce." As this book was published in 1759, and Hume's Essays in 1752, seven years hardly make a sufficient interval to enable Philip Cantillon to adopt the views of Hume, to write the manuscript, to become deceased, and after all to need adapting "to the present situation of our trade," etc. Had M'Culloch glanced into some ordinary bibliographical or biographical works of reference, he might have been saved from blundering.[1] Watt's *Bibliotheca Britannica*, indeed, would not have done much to set him right; for it merely informs us that Philip Cantillon was "a merchant of Purden." As there does not seem to be any such place in the whole world as "Purden," I can only conclude that it is an extraordinary typographical error for "London." The great French biographical works (both the *Biographie Universelle*, Paris, 1843, vol. vi. p. 584, and Didot's *Nouvelle Biographie Générale*, vol. viii. pp. 528-9) contain particulars of "Philip" Cantillon's life, stating that he died in 1733 (more accurately 1734). This fact of course disperses the notion that he could have borrowed from Hume. We learn

[1] M'Culloch's erroneous account of Cantillon has been unfortunately copied by Allibone in his *Dictionary of English Literature*.

also from these and other books to be presently quoted that Cantillon's work was first printed in the French language in the year 1755, under the title "Essai sur la Nature du Commerce en Général. Traduit de l'Anglois. Londres."

The briefest examination of this latter volume at once shows that the English version of 1759 is so horribly garbled as to give no idea of the merits of the original work. The so-called *Analysis of Trade* is a loose translation of portions of the real *Essai*, omitting usually the best parts of the chapters in order to allow of the insertion of extracts from Hume's Essays, rodomontades about Oliver Cromwell, and other wholly irrelevant matter. The book is said to be "Printed for the Author," but this author must have been a wretched literary hack, and in saying that the book was "taken chiefly from a manuscript of a very ingenious gentleman deceased" he diverged considerably from the line of strict veracity.

The French *Essai* appears to be a book of much rarity in England: I am told that there is no copy in the Cambridge University Library, nor does one appear in the printed catalogue of the Bodleian Library. A copy can, however, be consulted in the British Museum Library (press mark 1028, a. 19), where also will be found the *Analysis of Trade* of 1759, as well as a reprint of the French text in vol. iii. of the *Discours Politiques* of Hume, as translated and edited by De Mauvillon (Amsterdam, 1754-55).

My study of the *Essai* has been much facilitated by the fact that I found I had a copy of the book in my own library, accidentally bought many years ago in Paris. I have also a copy of the *Analysis*, purchased at the sale of the old Manchester Exchange Library, where it had probably rested since the time of its publication.

The original *Essai* is thus described on its title-page: "Essai sur la Nature du Commerce en Général. Traduit de l'Anglois. A Londres, chez Fletcher Gyles, dans Holborn. MDCCLV." The book consists of half-title, title, 430 pages, and 6 pages of

contents ; 12mo, sheets A to T ii. The date is erroneously given as 1752 in the French *Dictionnaire de l'Économie Politique*, and in Mr. Macleod's Dictionary.

Before turning to analyse the contents of this *Essai*, it will be well to learn what we can about the book and its author from extrinsic sources. It appears that the so-called Philippe de Cantillon was a clever merchant, born of an Irish family towards the end of the seventeenth century. At first he carried on business as a merchant in London, but afterwards removed to Paris, and established a banking-house. "Joining to immense credit," as the *Biographie Universelle* says, "amiable manners and much wit, he was sought after in the best society and lived in intimacy with persons of the first distinction." He was a friend of Lord Bolingbroke, and it is even asserted that he stood well with the Princesse d'Auvergne. Such, indeed, was his success, financial and social, that the great John Law, then in the midst of his financial combinations, grew jealous of him. Summoning his fellow-countryman to his presence, there ensued a conversation which must be true because, as a French author would say, it is so simple. "Si nous étions en Angleterre," said Law, "il faudrait traiter ensemble, et nous arranger ; mais, comme nous sommes en France, je puis vous envoyer ce soir à la Bastille, si vous ne me donnez votre parole de sortir du Royaume dans les vingt-quatre heures. Cantillon se mit à rêver un moment et lui dit : Tenez ; je ne m'en irai pas, et je ferai réussir votre système." Accordingly Cantillon took from Law an immense quantity of the new-fangled paper, which through the hands of his numerous commercial friends and agents, and by the force of his immense credit, he was able to place upon the market to great advantage. He thus, if the accounts can be trusted, made a fortune of several millions in a few days, but still, distrusting Law, prudently retired to Holland, whence he subsequently removed to London. Here he was murdered by a *valet-de-chambre* (more correctly a cook), who then decamped with his most valuable and portable property.

The above account of Cantillon appears to be derived from certain traditions printed in or subsequent to the year 1755. Thus in Grimm's Correspondence,[1] under the date Paris, 1er Juillet, 1755, we read that :—

> A month ago appeared a new work on Commerce intitled *Essai sur la Nature du Commerce en général*, in a fairly large duodecimo volume. This book has not been translated from the English, as is stated with design upon the title-page. It is a work originally composed in French by an Englishman, M. de Cantillon, a man of condition, who finished his days in Languedoc, where he had retired, and had lived many years.

In another letter, this statement is corrected (Tom. i. pp. 367-8) as follows :—"I was ill-informed concerning the person of M. de Cantillon, when I had the honour to write to you of his excellent work on Commerce. Cantillon, an Englishman and a man of intellect, as, indeed, his book proves him to be, established a bank in the time of the Regency, in Paris, where he had immense credit."

After giving the incident with Law already described, he concludes : "It is commonly said that he perished in a fire in his house in London, in 1733. The fact is that the fire was extinguished easily enough, and that they found Cantillon stabbed. The fire appears to have been raised to conceal the crime, and this affair gave rise to many rumours at the time."

Another authority of the year 1755, namely, *L'Année Littéraire—Année* 1755. *Par M. Fréron. Tom. v.* (*Amsterdam*), p. 357, confirms these statements, and adds a few further facts, saying that the murderer was discovered, arrested, and executed in London (?). "M. Cantillon had married his daughter to my Lord Bulkeley, Lieutenant-General in the French Service, Chevalier des Ordres du Roi, brother of Madame la Marêchale de Berwick. Madame Bulkeley died at Paris six or seven years ago." At p. 67 of the same volume we also find it stated that

[1] "Correspondance Littéraire, Philosophique et Critique, de Grimm et de Diderot, depuis 1753 jusqu'en 1790." Nouv. éd. Paris, 1829. T. i. (1753-56), pp. 332-341.

the book is not a real translation, but was written in French. "It is the English themselves who have translated it into their language from the original of M. Cantillon." This statement is clearly erroneous, however, no English version having appeared before that of 1759. The writer proceeds to add that, "It is not known by whom, nor how, this manuscript has been printed, nor why its publication was deferred more than twenty years. We are also ignorant of the reasons for which the publishers have suppressed in this impression certain very curious calculations, which several people assure me they have seen in the manuscript. However, this may be, the work, such as it now appears, is regarded as one of the best which have been written on commerce."

If Cantillon were really murdered in London, the newspapers of the time would probably contain some account of the event. Without much difficulty I met with the following particulars. *The Country Journal, or The Craftsman*, of Saturday, 18th May 1734, says :—

> Tuesday morning about three o'clock a fire happened in the house of Mr. Chantillon, a rich French merchant in Albemarle Street, which in a short space destroyed the said house, together with the Lord Viscount St. John's adjoining, and also greatly damaged another house. When the flames were first discovered, Mr. Chantillon's footman broke into his master's chamber (whom he had about twelve the night before left in his bedchamber reading with a candle), and found him dead in his bed, and with his head almost burnt off.

A paragraph, more important for our purposes, is contained in *Read's Weekly Journal, or British Gazetteer*, of Saturday, 1st June 1734, No. 480. It states that it had been represented to the King, that Richard Cantillon, Esq., was, on Tuesday, 14th May, between three and four in the morning, robbed and murdered in his house in Albemarle Street, and his said house afterwards villainously burnt to the ground. A free pardon is therefore offered by the Government to any accomplices in the deed. And, as a further encouragement, Mr. Philip Cantillon, a merchant of this city, has promised a

reward of £200 to any one of the criminals, excepting the actual murderer.

Further particulars of no especial importance may be gleaned, as that on the Sunday the other servants of the house were privately examined; that on Monday night the Coroner's inquest was held; that on Thursday Mr. Martin, the French distiller, was admitted to bail; on Thursday the servants were examined again. In *The Country Journal, or The Craftsman*, of Saturday, 15th June 1734, we read:—

"They write from Paris that the wife of Joseph Denier, alias Lebane, a Frenchman (who had been cook to the late Mr. Cantillon, and supposed to have robb'd and murdered that gentleman), had been put under an arrest, at her house three miles from that city, and her letters seized, in order to a discovery of her husband, all which had been done at the instance of the Earl of Waldegrave, his Majesty's Ambassador at the French Court."

It does not appear that the real culprit was ever captured, but according to an entry in the *Gentleman's Magazine*, under the date 7th December 1734 (vol. iv. p. 702), Isaac Burridge, Roger Arnold, and Elizabeth Pembroke were tried for the murder of their master, Mr. Cantillon, and for firing his house, and were found not guilty. See also the same volume, p. 273.

The important fact which we gather from the above contemporary records is that there were really two Cantillons, and that the rich French merchant was not Philip Cantillon at all, but Richard Cantillon.

It seems necessary to suppose that the real name of the great economist and financier was lost, and is only now for the first time attached to his work. As the garbled translation of 1759 speaks of Philip as late of the City of London, and the newspapers bear out this statement, while calling Richard a rich French merchant, it is impossible to suppose that Philip was the author and rival of Law, and Richard the London merchant. As a mere surmise we may suppose that Richard

and Philip were brothers, and carried on their merchant's and banker's business in close correspondence. But I do not know how to explain the fact that literary reputation became attached to the name Philip Cantillon. It needs to be noticed, indeed, that, besides the *Essai* two other literary works are connected in bibliographical books with the name De Cantillon. Thus Barbier, in his *Dictionary of Anonymous and Pseudonymous Works*, speaking of the *Histoire de Stanislas, 1^er^ Roi de Pologne, par M. D. C., Londres (Meyer)*, 1741, 2 vols. 12mo, says that some persons attribute this book to De Cantillon, the same probably from whom we have an "Essay on the Nature of Commerce." But in Quérard's *La France Littéraire*, vol. i. p. 43, vol. ii. p. 188, we are referred to J. G. de Chevrières as the author. Mere erroneous interpretation of the initial letters is here no doubt the cause of Cantillon's name having been used in connection with the book. There is another book, however, which actually bears the name M. de Cantillon upon its title-page (see Quérard, vol. i. p. 43). The following is the title of the book, a copy of which, in four vols. 8vo is in the King's Library at the British Museum :—*Les Délices du Brabant et de ses Campagnes, ou description des villes, . . . de ce Duché. Accompagnée des événemens les plus remarquables jusqu'au tems présent. Par M. de Cantillon. Ouvrage enrichi de* 200 *très belles figures en taille douce. Amsterdam*, 1757. This book, however, is simply a bookseller's speculation, and the text is no more than a commonplace commentary on the 200 copper-plate engravings, which are worthy of some commendation. Not the slightest reason can be discovered why this work should be connected with the merchant of the City of London, and I suspect that the book is pseudonymous, Cantillon's name being selected for the purpose on account of the reputation and mystery attaching to it.

I have been able to meet with few other facts relating to the personality of Cantillon. He was descended from the family of that name belonging to Ballyheige or Ballyhigue, in

County Kerry, Ireland, whose armorial bearings are given in Burke's General Armoury and other works thus :—"az. a lion, rampant, or, between two arrows, or, feathered and barbed, of the second." That this family had connections in France is apparent from the fact that Antoine Sylvain de Cantillon, Baron de Ballyheige, and in France Lieutenant-Colonel Chevalier of the Order of St. Louis, bore the same arms. In the *Gentleman's Magazine* for 1743, vol. xiii. p. 389, we read that the Earl of Stafford was married to a Miss Cantillon, so that some of the aristocracy both of England and France are probably descended from the first economist.

On looking into a genealogical work, the title of which I have accidentally lost, I found this view of the matter entirely confirmed, for we there have mention of "Richard Cantillon of Paris, Banker, 1710, descended from County Kerry, whose daughter Henrietta married first, 1743, William Howard, third Earl of Stafford, and second, 1769, Robert Maxwell, first Earl of Farnham."

In the *Gentleman's Magazine*, vol. xxvi., p. 91, among the deaths of the year 1756 is found that of Jasper Cantillon, Esq., one of the Commissioners for the Exchequer and for wounded soldiers in King William's wars in Flanders.

The name of course is an essentially Spanish one, and it is well known that many Spanish merchants settled on the west coast of Ireland. Their houses of distinctly Spanish architecture may be seen in Galway to the present day.

Turning now to this remarkable *Essai sur la Nature du Commerce en Général*, we find that it purports, according to the title-page, to be published "à Londres, chez Fletcher Gyles, dans Holborn." This, however, is certainly false. There was indeed in the early part of the eighteenth century a popular bookseller of the name Fletcher Gyles, who had a shop near Middle Row in Holborn, "over against Gray's Inn." Many particulars about him may be gathered from Nichol's *Literary Anecdotes* (see Index, vol. vii. p. 165), and it appears that he

did publish various works there mentioned. But then in 1736 the firm is given as Gyles and Wilkinson, and since Fletcher Gyles himself died of apoplexy in 1741, it is unlikely that his sole name would be put upon a title-page in 1755. Moreover no books are mentioned as published at the Holborn shop after 1737 (*Lit. Anec.*, vol. ii. p. 116). As regards type, paper, and general appearance the book is certainly not English, and was probably executed at Paris, as two bibliographical experts of the British Museum assure me. The binding of my copy is also of the contemporary French style. All these facts go to show that, although purporting to be translated from the English, and published by an English bookseller, there was really no connection with London.

The book itself is divided into three parts, containing respectively seventeen, ten, and eight chapters. The first part is to some extent a general introduction to Political Economy, beginning with a definition of wealth, and then discussing the association of people in societies, in villages, towns, cities, and capital cities; the wages of labour; the theory of value; the par between labour and land; the dependence of all classes upon landed proprietors; the multiplication of population; and the use of gold and silver. The second part takes up the subjects of barter, prices, circulation of money, interest, etc., and is a complete little treatise on currency, probably more profound than anything of the same size since published on the subject. The third part treats of foreign commerce, the foreign exchanges, banking, and "refinements of credit." Judged by the knowledge and experience of the time, this third part especially is almost beyond praise, and shows that Richard Cantillon had a sound and pretty complete comprehension of many questions about which pamphleteers are still wrangling and blundering, and perplexing themselves and other people. The *Essai* is far more than a mere essay or even collection of disconnected essays like those of Hume. It is a systematic and connected treatise, going over in a concise manner nearly the whole field of

economics, with the exception of taxation. It is thus, more than any other book I know, *the first treatise on economics.* Sir William Petty's *Political Arithmetic* and his *Treatise of Taxes and Contributions* are wonderful books in their way, and at their time, but, compared with Cantillon's *Essai*, they are mere collections of casual hints. There were earlier English works of great merit, such as those of Vaughan, Locke, Child, Mun, etc., but these were either occasional essays and pamphlets, or else fragmentary treatises. Cantillon's essay is, more emphatically than any other single work, "the Cradle of Political Economy."

The opening sentence of the first chapter, "De la Richesse," is especially remarkable, and is as follows: "La Terre est la source ou la matière d'où l'on tire la Richesse; le travail de l'Homme est la forme qui la produit: et la Richesse en elle-même n'est autre chose que la nourriture, les commodités et les agrémens de la vie."

This sentence strikes the keynote, or rather the leading chord of the science of economics. It reminds us at once of the phrase "land and labour of the country" upon which Adam Smith is so frequently harping. Yet it holds the balance between the elements of production more evenly than almost any subsequent treatise. Quesnay, as we shall see, attributed undue weight to some other remarks of Cantillon, and produced an entirely one-sided system of economics depending on land alone; Smith struck off rather on the other track, and took "the annual labour of every nation" as the fund which supplies it with all the necessaries and conveniences of life. Properly interpreted Cantillon's statement is probably the truest which has yet been given.

If, indeed, we are to trace out the filiation of ideas to the utmost, we get back to Sir W. Petty, who, in his *Treatise of Taxes*, chap. x. (of Penalties), Article 10 (1st ed. 1662, p. 49), speaks of "our opinion that labour is the father and active principle of wealth, as lands are the mother." It may here be

pointed out, by the way, that in the new English version of Roscher's *Principles of Political Economy*, translated by John J. Lalor, this remark of Petty is by a typographical error (vol. i. p. 168) merged into another sentence quoted from Harris, and written nearly a century later. Roscher refers also to a German work of Leser (*Begriff des Reichthums, bei Adam Smith*, 97), in which are collected together all the passages in which Adam Smith speaks of "the annual produce of land and labour."

Chapters VII. and VIII. are interesting because we here find the germ of Adam Smith's important doctrine concerning wages in different employments, as stated in the first part of the tenth chapter of the *Wealth of Nations*. Smith so greatly developed the doctrine and illustrated it so admirably as quite to make it his own; still here in this forgotten *Essai* are the leading ideas, as in the following extracts :—

> Those who employ artisans and skilled workmen must necessarily pay for their labour more highly than for that of a common labourer; and this labour will necessarily be more dear in proportion to the time lost in learning the trade, and the expense and risk which are required in perfecting the knowledge (p. 24). The arts and trades which are accompanied by risks and dangers, such as those of founders, mariners, silver miners, etc., ought to be paid in proportion to the risks. When, in addition to danger, skill is required, they ought to be still better paid, as in the case of pilots, divers, engineers, etc. When, moreover, capacity and trustworthiness are needed, labour is paid still more highly, as in the case of jewellers, bookkeepers, cashiers, and others (pp. 26-27).

It is impossible not to recognise here the agreeableness or disagreeableness, the easiness and cheapness, the difficulty and expense of learning a trade, and the small or great trust which must be reposed in those who exercise them, three out of the five circumstances enumerated by Smith as causing inequalities in wages.

In Chapter IX. Cantillon argues quite in the style of a recent disciple of Ricardo that there is no use in trying to increase the number of artisans in any trade by charity schools or special methods of education. He thinks there will never be

a want of artisans in a State, if there be sufficient employment for them.

Then follows in Chapter X. an ingenious theory of value, superior in some respects to the theories of many recent economists. The argument given in the few small pages devoted to the subject is so closely knit, that many large pages would be needed to do justice to the theory. Cantillon's meaning, however, is that certain things, such as Brussels lace, or the balance-spring of an English watch, depend for their value upon the labour involved in their production. The hay from a meadow, the timber from a wood on the other hand, are governed in value by the matter contained therein, or by the area of land required for its production, regard being had to the goodness of the land. The price of Seine water, as another instance, is not the price of the water itself, of which the quantity is immense, but the price of carrying it into the streets of Paris. He thus arrives at the following conclusion:—"By these inductions and examples, I think we can understand that the price or the intrinsic value of a thing is the measure of the quantity of land and of labour which enter into its production, regard being had to the goodness or productiveness of the land, and to the quality of the labour."

But Cantillon at once proceeds to explain that commodities will not always sell at their "intrinsic value." If a nobleman spends much money in making a beautiful garden, and the garden be brought to the hammer, it may bring only the half of what it has cost; in other circumstances it may bring the double. Corn, again, sells above or below its intrinsic value according to the abundance of the harvests. A perpetual flux and reflux of prices arises from the impossibility of proportioning the supply to the demand. In short, these few pages contain not only the whole doctrine of market value as contrasted to cost value, or, as the late Professor Cairnes called it, normal value, but there are allusions to difficulties which Ricardo, Mill and many others have ignored.

We cannot exhaust here, however, the intricacies of the theory of value, and must pass on to Chapter XI., which is interesting, as being the one quoted by Adam Smith. It contains the curious doctrine "of the par or relation of the value of land to the value of labour." Cantillon points out that the labour of the lowest kind of adult slave, must at least equal the quantity of land that the proprietor is obliged to employ for his subsistence, together with double the quantity of land required to bring up a child to the labouring age, remembering that, according to the calculations of the celebrated Dr. Halley, half the number of children die before reaching seventeen years of age. The doctrine is carefully guarded by Cantillon, with various qualifications and explanations, which we have not space to consider. Now, Smith refers to this theory in the eighth chapter of the first book of the *Wealth of Nations* (Thorold Rogers's edition, vol. i. p. 71), saying: "Mr. Cantillon seems, upon this account, to suppose that the lowest species of common labourers must everywhere earn at least double their own maintenance, in order that, one with another, they may be enabled to bring up two children; the labour of the wife, on account of her necessary attendance on the children, being supposed no more than sufficient to provide for herself. But one-half the children born, it is computed, die before the age of manhood." I believe that Smith must have derived his quotation from the French *Essai*; for he adverts to the fact that the labour of the wife, on account of her necessary attendance on the children, is supposed to be no more than sufficient to provide for herself. This is a point carefully noted by Cantillon (p. 43), but missed out, like most other essential points, in the base English version, which says, vaguely and slightingly, "allowance must be made for females" (p. 24).

It is quite of a piece with the whole history of Cantillon's book, that Smith, in thus quoting Cantillon approvingly, has erred. This chapter, the only one explicitly quoted by Smith, is the only one which Cantillon explicitly assigns to a previous

writer—namely, Sir William Petty. Cantillon terminates the chapter thus (pp. 54-55): "Monsieur le Chevalier Petty, in a little manuscript of the year 1685, regards this *par*, or (*en*, in original) equation of land and labour, as the most important consideration in Political Arithmetic; but the research which he has made into it in passing, is only bizarre, and remote from the rules of nature, because he is attached not to causes and principles, but only to effects; as Messieurs Locke and D'Avenant, and all the other English authors who have written anything of this matter, have done after him."

Now, in Sir W. Petty's very remarkable *Treatise of Taxes and Contributions*,[1] of which the first edition was published in 1662, we find the following passage (p. 26):—

> All things ought to be valued by two natural denominations, which is land and labour; that is, we ought to say, a ship or garment is worth such a measure of land, with such another measure of labour; forasmuch as both ships and garments were the creatures of lands and men's labours thereupon. This being true, we should be glad to find out a natural Par between Land and Labour, so as we might express the value of either of them alone as well or better than by both and reduce one into the other as easily and certainly as we reduce pence into pounds.

Here is a clear forecast, both of Cantillon's theory of value, and of the doctrine of a *par*; but I have not been able to discover in any of the other printed tracts of Petty, a further development of these ingenious ideas. From a paper read by Mr. W. H. Hardinge to the Royal Irish Academy, 8th May, 1865, and printed in the *Transactions* of the Academy, vol. xxiv., we learn that there is in the Lansdowne private collections an unpublished Essay on Ireland, of the year 1687, in addition to various other manuscripts. As Petty was clearly the originator of statistical science, and altogether a man of wonderful insight, it is much to be desired that his manuscript remains should be printed.

Returning to Cantillon, we find in Chapter XII. the germ

[1] *Tracts relating chiefly to Ireland.* By the late Sir William Petty, Dublin 1769, p. 31.

of the Physiocratic doctrines:—"Tous les ordres et tous les hommes d'un état subsistent ou s'enrichissent aux dépens des propriétaires des Terres." As we shall see further on, Quesnay himself, as well as his editors, frankly refer the origin of the great school of French Economists to this *Essai*, though it may be safely said that Cantillon avoids the onesidedness of Physiocracy.

Hardly do we leave the elements of Physiocracy than we fall, in Chapter XV., into an almost complete anticipation of the Malthusian theory of population. Cantillon says (p. 87):—

> In a word, we can multiply all sorts of animals in such numbers that we could have them even to infinity, if we could find lands to infinity proper to nourish them; and the multiplication of animals has no other bounds than the greater or less means remaining for their subsistence.
>
> Men multiply like mice in a barn, if they have the means of subsistence without limit; and the English in the colonies become proportionally more numerous in three generations, than they would in England in thirty; because in the colonies they find new lands to cultivate, from which they drive the savages (p. 110).

There are many interesting allusions to the varying standard of living in different states of society; to the prevalence of famines in China and elsewhere; to celibacy, libertinage, and others points of the population question. The Chapter is simply Malthus's celebrated Essay, condensed by anticipation into twenty-seven pages. But I am not aware that Malthus ever saw the book, and should think it very unlikely that he knew anything about it. Cantillon winds up the subject prophetically by suggesting that it is a question whether it is better for a kingdom to be filled with a multitude of very poor inhabitants, or with a less considerable number of better maintained persons. Here is a forecast of the most recent hedonic speculations of Mr. F. Y. Edgeworth. It should be added that Cantillon, in treating population, refers to the calculations and statistics of Halley, Petty, D'Avenant, and King, all English authorities.

The first part of the Essay is completed by a chapter "On Metals and Money, and particularly of gold and silver," in

which the author displays the most precise ideas about the need and nature of a common measure of value, the suitability of different commodities to serve in this capacity: grain, wine, cloth, precious stones, iron, lead, tin, copper, etc., are all compared as to their suitability for currency, just as in various recent works on money; and the author concludes that "gold and silver alone are of small volume, of equal goodness, easy of transport, divisible without loss, easily guarded, beautiful and brilliant, and durable almost to eternity."

We can notice only a few points in the second division of the Essay; for instance, the admirable explanation (pp. 199-203) of the fact that the prices of commodities and the cost of living are higher in cities, especially in capital cities, than in the country. This Cantillon attributes to the fact that a balance of payments is almost always due from the country to the cities, and the capital of the country; and that the commodities with which this balance is practically discharged, incur the cost and risk of conveyance. The same theory is applied (p. 209) to the relations of foreign countries, and Cantillon concludes that any State which sells manufactures to neighbouring States in such quantity as to draw a balance of specie towards itself, will eventually raise its own scale of prices. There is no taint of the Mercantile Fallacy whatever in this theory.

One of the most marvellous things in the book is the manner in which Cantillon (pp. 215-225) explains the successive effects of a discovery of gold or silver mines on the rates of wages and prices of commodities. The proprietors, undertakers, and employees of the mines first profit by the abundance and soon increase their expenditure, which increases the demand for the produce of artisans and other work people. These latter soon acquire increased rates of wages, and gradually the influence of the new money spreads from trade to trade, and from country to country. This is exactly the theory which was brought before the British Association in 1858 by the late Professor Cairnes, and which will be found beautifully expounded in his

Essays in Political Economy: Theoretical and Applied, Essays I. and II. (Macmillan, 1873).

It is not too much to say that the subject of the foreign exchanges has never, not even in Mr. Goschen's well-known book, been treated with more perspicuity and scientific accuracy than in Cantillon's Essay. It is quite astonishing, for instance, to find in the third part of the Essay (pp. 342-4) an explanation of speculations in the exchanges, which might be mistaken for an extract from Mr. Goschen's admirable treatise. Cantillon says :—

> If an English banker foresees in January, owing to the consignment of an unusual quantity of merchandise to Holland, that Holland will be indebted considerably to England at the time of the sales and remittances in March, he can, in the month of January, instead of remitting the fifty thousand ecus or ounces that are owing in this month to Holland, furnish his bills of exchange upon his correspondent at Amsterdam, payable at two months' usance. By this means he can profit by the exchanges which were in January above par, and which will be in March below par; thus he can gain thereby without sending a single sol to Holland.

But Cantillon is careful to add (p. 343) that though the speculation and credit of bankers may sometimes retard the transport of bullion from one city or state to another, it is always necessary in the end to discharge a debt and remit the balance of commerce in specie to the place where it is due.

Condillac, who in his profound and original work, *Le Commerce et le Gouvernement*, hardly quotes any writers or acknowledges any obligations, goes quite out of his usual course as regards Cantillon. He states in a footnote (chap. xvi., *Œuvres Complètes*, tom. vi. Paris, 1803, p. 141) that he has derived from the *Essai* the basis of his chapter on the circulation of money, besides several observations made use of in other chapters. "It is on this matter," says Condillac, "one of the best works which I know; but I do not know them all, by any means."

There is, perhaps, needed only one further proof of Cantillon's comprehension of monetary and financial questions, and

that is furnished by his treatment of bi-metallism, as it has since been called by M. Cernuschi. The fourth chapter of the third part contains a luminous discussion of the subject, beginning with an historical review of the variations in the relative values of gold and silver, and ending with most interesting remarks on the motives which actuated Sir Isaac Newton in settling the English guinea at 21s. Cantillon's general argument is to the effect that the precious metals must conform in value to the course of the market (p. 371).

It is the market price which decides the proportion of the value of gold to that of silver. On this is based the proportion which we give to pieces of gold and silver money. If the market price varies considerably, it is necessary to alter the proportion of the coins. If we neglect to do this, the circulation is thrown into confusion and disorder, and people will take the pieces of one or other metal at a higher price than that fixed by the Mint. An infinite number of examples of this are to be found in antiquity, but we have a quite recent one in England in the laws made for the Tower of London. The ounce of silver, eleven ounces fine, is there worth 5s. 2d. sterling; since the proportion of gold to silver (which had been fixed in imitation of Spain as 1 to 16) is fallen to 1 to 15 or 1 to $14\frac{1}{2}$, the ounce of silver sold at 5s. 6d., while the gold guinea continued to have currency always at 21s. 6d. That caused people to carry away from England all the silver crowns, shillings, and sixpences which were not worn by circulation. Silver money became so scarce in 1728 (mil sept cent vingt huit), because there remained only the most worn pieces, that people were obliged to change a guinea at a loss of nearly 5 per cent. The embarrassment and confusion which that produced in commerce and the circulation, obliged the Treasury to request the celebrated Sir Isaac Newton, Master of the Mint at the Tower, to make a report on the means which he believed to be the most suitable for remedying this disorder.

There was nothing so easy to do; it was only necessary to follow in the fabrication of silver coins at the Mint the market price of silver. In place of the proportion of gold to silver, which had for a long time been according to the laws and rules of the Mint at the Tower as 1 to $15\frac{3}{4}$, it was only necessary to make the silver pieces lighter in the proportion of the market price, which had fallen below that of 1 to 15, and to go beyond the variation which the gold of Brazil annually causes in the proportion of the two metals. They might have established the money on the footing of 1 to $14\frac{1}{2}$, as was done in 1725 in France, and as it will be necessary to do in England itself sooner or later.

Here is a distinct prophecy of that which was carried into effect in 1815 at Lord Liverpool's recommendation, and which

is still, and probably always will be, the fundamental point in the regulation of our metallic money. Cantillon goes on to explain that Newton took the opposite course, and Parliament followed his advice—namely, in diminishing the nominal value of the gold piece. This, he allows, equally adjusts the relative values of the pieces to the market price, but it is, notwithstanding, a less natural and advantageous method. He pointed out to Newton that by this measure England incurred a loss of £110,741 upon every £5,000,000 of capital which it owed to foreigners, and Newton's reply is given thus (p. 377): "Monsieur Newton m'a dit pour réponse à cette objection, que suivant les loix fondamentales du Roïaume, l'argent blanc était la vraie et seule monnoie, et que comme telle, il ne la falloit pas altérer." After giving some other refined arguments, Cantillon finally delivers his opinion against the double standard, saying (p. 380):—

> Il n'y a que le prix du Marché qui puisse trouver la proportion de la valeur de l'or à l'argent, de même que toutes les proportions des valeurs. La réduction de M. Newton de la guinée à vingt-un schellings n'a été calculée que pour empêcher qu'on n'enlevât les espèces d'argent foibles et usées qui restent dans la circulation; elle n'étoit pas calculée pour fixer dans les monnoies d'or et d'argent la véritable proportion de leur prix, je veux dire par leur véritable proportion, celle qui est fixée par les prix du Marché. Ce prix est toujours la pierre de touche dans ces matières; les variations en sont assez lentes, pour donner le tems de régler les monnoies et empêcher les désordres dans la circulation.

If I read this remarkable passage aright, it not only reaffirms Cantillon's opinion that it is futile to attempt to fix the proportion of gold and silver perpetually, but that Newton had himself no idea of attempting the impossibility. His reduction of the guinea was only "calculated" to prevent the removal of the worn pieces which still remained in circulation—that is, to effect a matter of immediate practical importance. The bimetallists having quoted Newton as on their side, Mr. Inglis Palgrave and other English economists have been anxious to know the real motives of Newton, which are not easy to gather from his official report. But in these remarks of Cantillon we

actually seem to have the statement of an acquaintance of Newton, and a master of currency and finance, that he had discussed the subject with Newton, and that Newton's intention was "not to fix in gold and silver moneys the veritable proportion of their price." I take this to be a distinct disclaimer of bi-metallism, and recommend this passage to the attention of Mr. Samuel Smith, Mr. Stephen Williamson, Mr. Edward Langley, Mr. Horton, Dr. N. P. Van den Berg, and other advocates of the bi-metallic crotchet.

I am, of course, aware that M. Cernuschi and other contemporary bi-metallists found their faith in the system upon the expected general agreement among all the nations of the world. To this it may be replied in the words of an ancient saying: "I will give thee my daughter if thou canst touch heaven." Not only bi-metallism, but a thousand other beneficent measures would become possible if all the nations of the world could agree about them. Let us learn a lesson from Cantillon, who, though he touches the depths of theory in one chapter, knows how to limit himself within the possibilities of practical life in the next.

It must not be supposed that I have at all exhausted the valuable points of his Essay. Every here and there we find a pregnant little paragraph which, when carefully studied, displays an insight into questions still novel, or but half settled after long discussion. Mr. Macleod should study p. 291, where it is clearly explained that debts, including State debts, cannot be counted as part of the wealth of the country. In pp. 186, 187 there is a wonderfully clear explanation how much trade goes on between correspondents by book credit, with only occasional payment of balances. This method, which Cantillon aptly calls "troc par évaluation," is the germ of what I have described in my book on *Money and the Mechanism of Exchange* as the cheque and clearing system (chap. xx.). I there said: "The banking organisation effects what I have heard Mr. W. Langton describe as a *restoration of barter*." This is what

Cantillon describes in the most precise manner as *barter by valuation.*

In spite of the undeveloped state of the art of banking at the time when Cantillon wrote, his views on this subject are sound as far as they go, and although he is said to have made a fortune of several millions in a few days by speculation in Law's paper-money, he thus summarily dispatches the currency-mongers (p. 413): "An abundance of fictitious and imaginary money causes the same disadvantages as an augmentation of the real money in circulation, by raising the price of land and labour, or by making works and manufacture more expensive at the risk of subsequent loss. But this occult abundance vanishes at the first shock to credit, and precipitates disorder."

In spite of comparisons being odious, I should have liked, had space allowed, to institute a careful comparison between Cantillon's *Essai* and Hume's celebrated *Political Essays.* As regards the value of gold and silver, Eugène Daire has made a comparison of the kind, and decides in favour of Cantillon, Hume's view being, he thinks, subject to certain errors (*Physiocrates, Quesnay,* etc. Paris, 1846, p. 74). It is most instructive to compare Hume's fifth Essay, on the balance of trade, with the seventh chapter of the second part of Cantillon. Both authors imagine the money in a country to be suddenly increased or decreased; but, whereas Hume discusses the matter with vague literary elegance, Cantillon analyses the effects on prices with the scientific precision of a Cairnes or a Cournot.

It is not too much to say of this *Essai* in the words of M. Léonce de Lavergne, that "all the theories of (the) Economists are contained by anticipation in this book, although it has only the extent of a moderate duodecimo volume." Nor is there wanting positive evidence that Quesnay, the founder of the great school of French Economists, actually did draw his leading principle from the *Essai.* Eugène Daire, the editor of the collected works of the Physiocrates, than whom there can be no better authority, expressly points out that Quesnay's

fundamental doctrine "la terre est l'unique source des richesses" appears to be borrowed from the opening chapter of Cantillon's *Essai*. The same is the case, he remarks, with the idea that the net produce of the land is the fund on which all non-agriculturists live, the subject as already stated of the twelfth chapter. As to this latter point we do not rest on conjecture, because in one of his earliest printed writings, the article on "Grains" in the celebrated *Encyclopédie Méthodique*, of Diderot and D'Alembert, Quesnay actually quotes Cantillon. After saying that land must not only nourish those who cultivate it, but must furnish to the State the greater part of the revenue, the tithes of the clergy, the income of proprietors, the profits of farmers, the gains of those who are employed in cultivation, and that it is these revenues, which are expended in payments to the other classes and all the other professions, he goes on :—

> An author has recognised these fundamental truths when he says that the assemblage of several rich proprietors who reside on the same spot, suffices to form what we call a city, where merchants, manufacturers, artisans, labourers, and servants assemble in proportion to the revenues which the proprietors there expend, so that the grandeur of a city is naturally proportional to the number of landed proprietors, or rather to the produce of the land belonging to them.

Quesnay adds a footnote referring to this extract as follows :—"Cantillon, *Essai sur le Commerce*, chaps. v. vi." On referring to the original edition of the *Encyclopédie* (Paris, 1757, folio), I find the quotation given in this manner in the seventh volume, p. 821. Curiously enough the quotation is not an accurate verbatim one, as the inverted commas would make us suppose, but is gathered together from different parts of the chapters named. In any case we have here the unquestionable fact that the acknowledged founder of the Physiocratic school expressly attributes in his earliest writings the fundamental point of his system to the *Essai*. Moreover, only two years after its publication, he joins the title of the *Essai* with the name of its supposed author, and no one could do this with greater authority than Quesnay.

There are not wanting some indications that English economic writers were also indebted to Cantillon, though they did not acknowledge their debt with Quesnay's candour. It is with regret that I find the earlier sections of Harris's *Essay upon Money and Coins*, published in London in 1757 and 1758, to be obviously borrowed from Cantillon. This work is so excellent as regards its main topic, money, that he need not have pillaged a contemporary French publication. Not only is there no reference to Cantillon, but in the Preface we are told that "in order to clear the way, and for the better settling of things upon their first and true principles, it hath been thought necessary to take a general view of wealth and commerce, which is the subject of the first chapter." But unfortunately this chapter is little more than a selection of passages from Cantillon. "Land and labour together are the sources of all wealth." There is the doctrine of three rents, from p. 56 of the *Essai*. There is the example of the watch-spring already alluded to. In Section 8 the theory of the par of land and labour afterwards quoted by Smith appears. The difference of wages are explained in Section 10, as depending upon risk, skill, trust required, almost in the words of Cantillon.

Another contemporary writer of some importance in his time, namely Malachy Postlethwayt, had the coolness to embody certain portions of Cantillon's Essay in his book called *Great Britain's True System, etc.*, published in London in 1757. From p. 148 to p. 153, we find a slightly abbreviated translation of Cantillon's eleventh chapter on the par of land and labour, winding up with a reference to Sir W. Petty's MS. of the year 1685, introduced in such a way that we might suppose Postlethwayt to be quoting from it. Then follow other extracts from Cantillon, including the doctrine of three rents, the watch-spring, and water illustrations, and other matters, and Postlethwayt sums up thus his, *i.e.* Cantillon's, theory of value:—"From these examples and explanations I believe it will appear that the price of anything intrinsically

is the measure of the land and labour that enters into its production."

In the original *Essai* every here and there (pp. 35, 48, 93, etc.) we find reference to a certain Supplement, in which were contained various calculations of a statistical nature. This work has never appeared, it being altogether a mistake of the writer in the *Nouvelle Biographie Générale*, to suppose that the *Analysis of Trade* of 1759 contained this Supplement. The writer in Fréron's *Année Littéraire* says that he knew persons who had seen the manuscript of this Supplement, a statement which it is difficult to reconcile with his previous one, to the effect that no one knew how the *Essai* came to be printed. Grimm's *Correspondence* (vol. i. p. 344) says that the Supplement was in 1755 believed to be lost, in spite of all the care that had been taken to find it. But it seems doubtful whether these writers really knew anything about the matter.

There still remains the interesting question, who really did write this most remarkable Essay, the true "Cradle of Political Economy?" The antecedent probabilities are altogether against the idea that a book published in Paris in the middle of the eighteenth century was really written by the man to whom it was attributed. The despotic character of the Government seems to have given rise to a habit of falsifying title-pages to an extraordinary extent, and thus falsifying literary history. In the one year, 1755, in which the Essay was published, no less than ninety books issued in France, are attributed on the title-pages to the presses of Amsterdam, London, Brussels, Venice, Berlin, Vienna, Cologne, or other cities.[1]

It was also the practice to conceal the authorship by various devices. Forbonnais wrote under the assumed name of Leclerc, M. du T. . . . , etc. An author often put forward obnoxious opinions in the form of a free translation of some English work, as in the case of Forbonnais's *Le Négociant Anglais*, founded

[1] See Emil Weller's *Dictionnaire des Ouvrages Français, portant de fausses indications des lieux d'impression.* Leipzig, 1864, vol. ii. p. 141.

on King's *British Merchant*. John Cary's *Discourse of Trade* (London, 1745) was converted into an *Essai sur l'État du Commerce d'Angleterre* (2 vols. 8vo, Paris, 1755), which, according to M'Culloch, is in all respects a more valuable work than the original. One work issued professedly at Leyden in 1754, is falsified in a complicated way, being stated on the title-page to be *Traduction de l'Anglois du Chevalier John Nickolls*, the book being called *Remarques sur les Avantages et les Désavantages de la France et de la Grande Bretagne, etc.* In the Preface, John Nickolls, under the date "A Londres, 1752," apologises to that respectable minister of Bristol, Josiah Tucker, for adopting the title and part of the substance of his *Brief Essay on the Advantages and Disadvantages which respectively attend France and Great Britain with Regard to Trade, etc.*, first edition, 1750. Now the fact is, there never was such a person as Sir John Nickolls. This is almost sufficiently proved by the fact that we find no entry of his name in that invaluable work of reference, Lawrence Phillip's *Dictionary of Biographical Reference* (Sampson Low, 1871). This is allowed, too, in an advertisement of the book appended to vol. ii. of the *Discours Politiques* (Amsterdam, 1756, p. 323). The real author is supposed to be Plumart de D'Angeul, but the matter was complicated by the fact that his ingenious adaptation of Josiah Tucker was afterwards translated into English (1 vol. 12mo, London, 1754).

What then would be more probable than that this *Essai sur la Nature du Commerce en Général*, might be the work of some ingenious contemporary French Economist, merely attributed by rumour to the popular name of Cantillon, the *manière Anglaise* being adopted because it was then much in favour in France. The title-page is unquestionably false with regard to Fletcher Gyles and the London origin, and believed to be false as regards the asserted translation from an English original. As in the extracts given from Grimm and Fréron, all knowledge as to the existence of a real manuscript, the name of

the translator or issuer, etc., is expressly disclaimed, there is ample room for doubting everything. I have tried hard to resolve the mystery, but with doubtful success.

As regards the question of translation, I am not French scholar enough to be able to discriminate between the style of a translation of an English original, and a French original written by an educated Anglo-Irishman, and it remains only to accept the opinion of all the French authorities that it is a "Traduction Supposée." The authorship might, however, possibly be inferred from intrinsic evidence to which I have given much attention. One fact which it is difficult to explain is the palpable anachronism occurring in the passage already quoted concerning Newton's report on the English currency, which is attributed to the disorder of the currency in *mil sept cent vingt huit*, although Newton died in 1727, and his report was made in 1717. This erroneous date can hardly be a typographical error, as it is given in words at full length, copied into numbers in the base English version. It is impossible to suppose that Richard Cantillon, writing just about the time of Newton's death, or soon after, could fall into an error of this kind, but such confusion would be possible on the part of a French author writing a quarter of a century later.

There is much too in the style of the book, here and there, which raises suspicions as to its being really the finished work of a busy financier. The opening sentence of the book has a metaphysical ring about it: "The land is the matter of riches; labour is the form which produces it." Here is the precise distinction between the material cause and the formal cause, in the Aristotelian philosophy. There is something very scholastic, again, about the footnote on p. 377, the only one in the whole volume, where, in regard to Newton's remark about silver being the true and sole money, it is added, "Ici M. Newton sacrifia le fond à la forme." Even supposing that there were in existence some manuscripts of the real Richard Cantillon, may not one of the numerous and clever economists of the period of Quesnay

have worked these materials up into a consistent treatise, and put the whole off upon Cantillon and Fletcher Gyles.

There are, however, many reasons in favour of believing the *Essai* to be really the work of Richard Cantillon. I have not been able to discover in the book any allusion or other intrinsic evidence of any part of the book having been written later than 1725 or thereabouts, when Cantillon was still living. There is here and there a local colouring drawn from London life. On p. 274 we are told that the London brewers were in the habit of advancing barrels of beer to their publicans at an interest of 500 per cent per annum, and it is said that they could grow rich even though half their publican creditors became bankrupt. On the next page some facts about the fish-women of Billingsgate (Revendeuses) are introduced. But there is also plenty of local French colouring. The authors cited are mostly English namely, Sir W. Petty, D'Avenant, Locke, Halley, Gregory King, Newton. The only French economist whom I remember as being referred to by name is Vauban, whose *Projet d'une Dîme Royale*, published in 1707, is condemned in p. 210. A certain M. Boizard is, however, referred to in p. 137, and an unnamed French author in p. 248.

The best proof, however, of the work being really written by a skilful financier, and not by a literary economist like those who issued such a multitude of small treatises in the time of Quesnay, is found in the intimate acquaintance with the working of commerce displayed throughout the Essay. It is next to impossible that the latter part of the book, especially the third part, could be supposititious. I am not quite so sure about the first part containing the principles adopted by Quesnay. But the book is so consistent and well knit together that if it were a compound and supposititious work like that of "Sir John Nickolls," it would be difficult to admire too much the skill of the economic forger.

And now, if Cantillon's *Essai* be the veritable cradle of Political Economy, what is the nationality of the bantling

science? "La Chimie," says M. Wurtz, "est une science française." Lavoisier's immortal "Traité Elémentaire de Chimie" was its cradle. What like conclusion can we draw as to the nationality of economic science? If my careful and laborious inquiries have led to a correct result, I should formulate it thus: The first systematic Treatise on Economics was probably written by a banker of Spanish name, born from an Irish family of the County Kerry, bred we know not where, carrying on business in Paris, but clearly murdered in Albemarle Street. The Treatise was written either in English or French, it is not known which; was first printed in Paris in the guise of a French translation, purporting to be published by Fletcher Gyles over against Gray's Inn in Holborn; was damned in England by a base garbled English re-translation, erroneously attributed to a merchant late of the City of London, perhaps the brother of the author. Except that it was once mistakenly quoted by Adam Smith, it has remained to the present day unknown or entirely misinterpreted in England, while in France it has been explicitly acknowledged to be the source of the leading ideas of the great French school. That French school is known to have formed to a considerable degree the basis of the *Wealth of Nations*, and may yet be destined to be recognised, in regard to many of its doctrines, as the true scientific school of economics. The reader can now readily decide in his own mind the question—What is the Nationality of Political Economy?

THE FUTURE OF POLITICAL ECONOMY

(From the *Fortnightly Review*, November 1876. See Preface, p. xiii.)

THE FUTURE OF POLITICAL ECONOMY[1]

THE year 1876 is remarkable as being the hundredth anniversary of at least two important events. On the other side of the Atlantic, the Americans are celebrating the birth of a great nation. On this side of the water we ought to be celebrating the publication of a great book—a book to which we owe, in as great a degree as to any other circumstance, the wealth and prosperity of this kingdom. It is curious to observe, indeed, that these two centenaries are in a certain respect antithetic to each other. While we attribute our wealth to the establishment of the free trade principles which Smith advocated, the American Government yet maintains a fiscal system in direct and avowed antagonism to those principles.

The enormous wealth of the United States has been created by the freedom and energy of internal trade acting upon natural resources of unexampled richness. It cannot for a moment be doubted that their wealth would be far greater still were external commerce in the States as free as internal commerce. To us, dwelling and working in this comparatively speaking very small island, endowed with no remarkable natural resources, except coal and iron,—to us, the freedom of external commerce is everything. This freedom we may properly attribute to the writings of Adam Smith, even more than to the labours of Gladstone, or Cobden, or Bright, or any of the great statesmen who actually carried the doctrines of Smith into effect.

[1] Introductory Lecture at the opening of the Session 1876-77, at University College, London, Faculty of Arts and Laws.

We ought, therefore, to be celebrating the publication of the *Wealth of Nations,* and the memory of its author; but are we doing so? With a single exception, I am unacquainted with any public ceremony, or anything tending to mark this as a centennial year in Great Britain. Perhaps this is because we are not a people accustomed to commemorations of the sort. If I recollect rightly, even the Shakespearian jubilee was rather a failure. However this may be, there has been one exception, and that was a most suitable commemoration of Adam Smith. On the 31st of May last, the Political Economy Club held a grand dinner and a special discussion in honour of the hundredth anniversary of the publication of the *Wealth of Nations.*

Probably, when people saw this dinner described in the newspapers, their first thought was, "What is the Political Economy Club? We never heard of it before." I may, therefore, explain briefly that the Political Economy Club has pursued an inconspicuous, but very useful career for more than half a century. Whether its continued existence be due to the excellence of its monthly dinners,—in respect of which the club does not seem to study economy,—or to the interest of the economical debates which follow each dinner, I will not attempt to decide. Certain it is, however, that the club was founded in the year 1821 by Ricardo, Malthus, Tooke, James Mill, Grote, Cazenove, and other distinguished men, and that since its foundation it has included as members nearly all English political economists. John Stuart Mill especially was, for many years, a leading member, and first propounded at its table the doctrines advocated in his economical works.

It was no doubt most suitable that such a body should celebrate the establishment in England of the science they cultivate, and the centenary dinner held last May was in some respects a very remarkable one. Mr. Gladstone was in the chair, with Mr. Lowe on the one hand, and M. Léon Say, the present French Minister of Finance, on the other hand. The company included a body of statesmen, economists, and statists, British,

Continental, and American, such as are seldom seen together. It is true that the statesmen had it mostly their own way, and in the presence of Gladstone and Lowe, and a real French Minister of Finance, the company appeared to care little what mere literary economists thought about Adam Smith. But I shall on the present occasion be so bold as incidentally to review and criticise some of the opinions which were put forth at the dinner, a full and carefully revised report of the speeches having been printed by Messrs. Longman, under the superintendence of the committee of the club.

Mr. Lowe opened the debate in a most interesting survey and eulogium of Adam Smith and his works. He concluded with some remarks upon the results which have followed from Smith's writings, and upon what yet remains to be achieved by political economy. I was much struck with the desponding tone in which Mr. Lowe spoke of the future of the science I have the honour to teach in this college. He seems to think that the work of the science is to a great extent finished. He said :—

> I do not myself feel very sanguine that there is a very large field—at least, according to the present state of mental and commercial knowledge—for political economy, beyond what I have mentioned; but I think that very much depends upon the degree in which other sciences are developed. Should other sciences relating to mankind, which it is the barbarous jargon of the day to call Sociology, take a spring and get forward in any degree towards the certainty attained by political economy, I do not doubt that their development would help in the development of this science; but at present, so far as my own humble opinion goes, I am not sanguine as to any very large or any very startling development of political economy. I observe that the triumphs which have been gained, have been rather in demolishing that which has been found to be undoubtedly bad and erroneous, than in establishing new truth; and imagine that, before we can attain new results, we must be furnished from without with new truths to which our principles may be applied. The controversies which we now have in political economy, although they offer a capital exercise for the logical faculties, are not of the same thrilling importance as those of earlier days; the great work has been done.

I am far from denying that there is much to support, or at any rate to suggest, this view of the matter. Some of the

greatest reforms which economists can point out the need of have been accomplished, and there is certainly no single work to be done comparable to the establishment of free trade. But this does not prevent the existence of an indefinitely great sphere of useful work which economists could accomplish, if their science were adequate to its duties. To a certain extent, again, I agree with Mr. Lowe that there is much in the present position of our science to cause despondency. A very general impression to this effect seems to exist. Some of the newspapers hinted in reference to the centenary dinner that the political economists had better be celebrating the obsequies of their science than its jubilee. The *Pall-Mall Gazette* especially thought that Mr. Lowe's task was to explain the decline, not the consummation, of economical science. Perhaps with many people the wish was father of the thought. I am aware that political economists have always been regarded as cold-blooded beings, devoid of the ordinary feelings of humanity—little better, in fact, than vivisectionists. I believe that the general public would be happier in their minds for a little time if political economy could be shown up as imposture, like the greater part of what is called spiritualism.

It must be allowed, too, that there have been for some years back premonitory symptoms of disruption of the old orthodox school of economists. Respect for the names of Ricardo and Mill seems no longer able to preserve unanimity. J. S. Mill himself, in the later years of his life, gave up one of the doctrines on which he had placed much importance in his works. One economist after another—Thornton, Cairnes, Leslie, Macleod, Longe, Hearn, Musgrave—has protested against some one or other of the articles of the old Ricardian creed.

At the same time foreign economists, such as De Laveleye, Courcelle-Seneuil, Cournot, Walras, and others, have taken a course almost entirely independent of the predominant English school. So far has this discontent gone, that Mr. Bagehot has been induced to re-examine the fundamental postulates of

economy from their very foundation, in his most acute papers, published in the *Fortnightly Review*. He remarks (p. 216, 1st February 1876):—

> Notwithstanding these triumphs, the position of our political economy is not altogether satisfactory. It lies rather dead in the public mind. Not only it does not excite the same interest as formerly, but there is not exactly the same confidence in it. Younger men either do not study it, or do not feel that it comes home to them, and that it matches with their most living ideas. . . . They ask, often hardly knowing it, will this "Science," as it claims to be, harmonise with what we now know to be sciences, or bear to be tried as we now try sciences? And they are not sure of the answer.

In short, it comes to this—that one hundred years after the first publication of *The Wealth of Nations*, we find the state of the science to be almost chaotic. There is certainly less agreement now about what political economy is than there was thirty or fifty years ago. Under these circumstances, I will now draw your attention for a short time to the apparently rival sects which seem likely to arise from the break up of the old Ricardian school.

In the first place, it is impossible to ignore the fact that there has been gradually rising into prominence a school of writers who take a very radical view of the reforms required in our science. They call in question the validity even of the deductive method on which Smith mainly relied. They hold that the science must be entirely recast in method and materials, and that it must take the form of an historical or archæological science. At the centenary dinner this view of the matter was boldly stated by one of the most distinguished of European economists—namely, M. de Laveleye. His own words, translated into English, will best explain his opinions:—

> It is principally at this point that there has recently arisen a division in the ranks of economists. Some, the old school, whom, for want of a better name, I will call the Orthodox School, believe that everything regulates itself by the effect of natural laws. The other school, which its adversaries have named the Socialists of the Chair, the "Katheder-socialisten," but which we ought rather to call the Historical School, or, as the Germans say, the "Realist School"; this school holds

that distribution is governed in part doubtless by free contract; but also, and still more, by civil and political institutions, by religious beliefs, by moral sentiments, by custom and historical tradition. You see that there opens itself here an immense field of studies, comprehending the relations of political economy with morals, justice, right, religion, history, and connecting it to the *ensemble* of social science. That in my humble opinion is the actual mission of political economy. This is the path pursued by nearly all German economists, several of whom have a European reputation, such as Rau, Roscher, Knies, Nasse, Schäffle, Schmoller; in Italy by a group of writers already well known, Minghetti, Luzzati, Forti; in France, by Wolowski, Lavergne, Passy, Courcelle-Seneuil, Leroy-Beaulieu; and in England by authors, whom it is unnecessary to name or estimate here, because you know them better than I.

There is certainly no difficulty in mentioning a series of distinguished English economists who have shown a propensity to the historical treatment of the science. To begin with, Adam Smith would no doubt be claimed by the historical school, for there is a strong historical element running through his book. Not only does *The Wealth of Nations* contain special historical inquiries like that concerning the value of silver, the chapter on agricultural systems, or the whole book upon "The Different Progress of Opulence in Different Nations," but the whole work teems with concrete illustrations or verifications drawn from the history of many countries. As has been well remarked, Adam Smith had some of the many-sidedness at which all have wondered in Shakespeare, and it is singular testimony to the completeness of his method, that while Mr. Lowe claimed him, and I think correctly, as a deductive economist, another speaker, Professor Rogers, held him to be the practical Bacon of economical science. The fact, I believe, is that Smith combined deductive reasoning with empirical verification in the manner required by the complete inductive method.

But to proceed, we find that the essay of Malthus *On Population*, far from being, as many people probably suppose, a collection of rash generalisations and hypotheses, consists mainly of a most careful inquiry into historical and statistical facts concerning the numbers and conditions of mankind in all parts

of the world. It is a model of inductive inquiry so far as information was available in his day. The essay of Richard Jones *On the Distribution of Wealth and the Forms of Land Tenure in Different Countries,* is a far less celebrated book, but displays the same careful spirit of inquiry into the past or present condition of men. Mr. Samuel Laing, again, in his well-known and most interesting works, takes the same position, and has studied upon the spot the economy of Norway, Sweden, France, Prussia, and Switzerland, somewhat in the manner that Arthur Young studied France and Great Britain in the last century. The general conclusion of Mr. Laing is that every country has a political economy of its own, suitable to its own physical circumstances and its own national character.

Passing over the minor works of Banfield, Burton, and others, it is impossible to overlook the recent admirable research of Professor Thorold Rogers *On the History of Agriculture and Prices in England from* 1259 *to* 1400 (published by the Clarendon Press). In this book Professor Rogers has certainly pursued the historical and inductive method with unbounded industry and remarkable success. He has made us better acquainted with the economy of the fourteenth and fifteenth centuries than we are with that of the eighteenth. In the fascinating works of Sir Henry Maine, too, especially his last work on *The Early History of Institutions,* there is much historical inquiry bearing upon economical science.

Perhaps the most recent of all declarations in favour of the inductive study of the laws of wealth, is that of Sir George Campbell, who in his inaugural address as President of the Economical and Statistical Section of the British Association at the late Glasgow meeting, spoke as follows :—

> There was a time when it seems to have been supposed that political economy was a science regulated by natural laws, so fixed that safe results could be attained by deductive reasoning. But since it has become apparent that men do not, in fact, invariably follow the laws of money-making, pure and simple, that economic action is affected by moral causes which cannot be exactly measured, it becomes more and

more evident that we cannot safely trust to a chain of deduction; we must test every step by an accurate observation of facts and induction from them.

Upon this and other statements I shall have to make some remarks presently.

It is, however, Professor Cliffe Leslie who has placed himself at the front of the inductive and historical school of economists in this country by the thoroughness, as well as the ability, of the essay in which he declares his revolt from the old orthodox school. In a remarkable paper, printed in the Dublin University essays, published under the title of *Hermathena*, he calls in question altogether the validity of the deductive reasoning which Mr. Lowe considered the most valuable feature in the *Wealth of Nations*. He considers the generally recognised laws of economy to be rude generalisations, obtained by a superficial and unphilosophical process of abstraction. No attempt, he thinks, has been made to measure the relative force of economical principles in different states of society, or to allow for multitudes of disturbing causes.

"Had the actual operation of the motives in question," he says, "been investigated, it would have been seen to vary widely in different states of society and under different conditions. The love of distinction or of social position, for example, may either counteract the desire of wealth, or greatly add to its force as a motive to industry and accumulation. It may lead one man to make a fortune, another to spend it At the head of the inquiry into the causes on which the amount of the wealth of nations depends is the problem—what are the conditions which direct the energies and determine the actual occupations and pursuits of mankind in different ages and countries?" . . . "Enough," he continues, "has been said in proof that the abstract *à priori* and deductive method yields no explanation of the causes which regulate either the nature or the amount of wealth. . . . The truth is that the whole economy of every nation, as regards the occupations and pursuits of both sexes, the nature, amount, distribution, and consumption of wealth, is the result of a long evolution, in which there has been both continuity and change, and of which the economical side is only a particular aspect or phase. And the laws of which it is the result must be sought in history and the general laws of society and social evolution."

These extracts indicate the line of thought by which Professor Leslie has been led to regard the general theorems of

Ricardo as mere "guesses," and the deductive theory of political economy as barren, if not false. Now I am far from thinking that the historical treatment of our science is false or useless. On the contrary, I consider it to be indispensable. The present economical state of society cannot possibly be explained by theory alone. We must take into account the long past out of which we are constantly emerging. Whether we call it sociology or not, we must have some scientific treatment of the principles of evolution as manifested in every branch of social existence. Accordingly, M. de Laveleye, Professor Cliffe Leslie, or M. Lavergne, may very properly do for political economy what Sir Henry Maine has done for jurisprudence—namely, show that every law, custom, or social fact is the product of the past, historical or forgotten.

But it is surprising how often men, even of the highest powers, fall into a logical fallacy which has not, I think, been dubbed with any special name, but might fitly be called *the fallacy of exclusiveness.* There are too many in the present day who advocate the teaching of physical science, and imply in the mode of their advocacy that moral, classical, or other studies are to be discountenanced. It is most common to find people speaking of inductive reasoning as if it were entirely distinct and opposite to deductive reasoning, the fact being, however, as I believe, that deduction is a necessary element of induction.

In these and many other cases, people argue, more or less consciously, that because a certain thing is true or useful, therefore other things are not true or not useful. Some tendency of this sort might be suspected by the reader of the last two chapters of Sir Henry Maine's *Early History of Institutions,* in which he discusses the relation of his own historical treatment of jurisprudence to the systems of Hobbes, Bentham, and especially Austin. Sir Henry Maine has conclusively shown that the investigation of the origin and development of law is essential to the understanding of the jurisprudence of any people; but it does not follow, and I do not understand Sir

Henry Maine to assert, that an abstract and perfect scheme of jurisprudence, like that which Austin gave to the world in this college, is therefore devoid of truth and usefulness. Now the case of political economy is exactly parallel to this.

I cannot easily conceive any more interesting or useful subject of study than that which Professor Leslie advocates and engages in. It is absolutely essential that we should view the present by the light of the past; but I differ from him entirely when he holds that historical political economy is to destroy and replace the abstract theory which has previously held the place of the science. Does it follow that because palæontology is now established as an all-important science of an historical character, therefore animal physiology, or the chemistry of animal substances, is false? Any group of objects may be studied, either as regards the laws of action of their component parts, irrespective of time, or as regards the successive forms produced from time to time under the action of those laws. Now the laws of political economy treat of the relations between human wants and the available natural objects and human labour by which they may be satisfied. These laws are so simple in their foundation that they would apply, more or less completely, to all human beings of whom we have any knowledge. The laws of property are very different in different countries and states of society. They seem to be in a very rudimentary state among the Eskimo. According to Dr. Rinks, if one Eskimo man has two boats and another has none, the latter has a right to borrow one of the two boats; and it is further said that it is not the custom among the Eskimo to return borrowed articles. Now this is, of course, a very different state of things from what obtains among us. Nevertheless we can trace in this transaction of the borrowed boat the simple principles which are at the basis of economy. The most fundamental of its laws is that of Senior and Banfield—namely, that human wants are limited in extent. One boat is very useful, if not essential, to an Eskimo; a second boat is much less useful to a

man who has already one boat, but it is highly useful if passed into the hands of a boatless neighbour. The elements of value are present here as in the most complicated operations of our corn or stock exchanges. I should not despair of tracing the action of the postulates of political economy among some of the more intelligent classes of animals. Dogs certainly have strong though perhaps limited ideas of property, as you will soon discover if you interfere between a dog and his bone.

I come to the conclusion, then, that the first principles of political economy are so widely true and applicable that they may be considered universally true as regards human nature. Historical political economy, so far from displacing the theory of economy, will only exhibit and verify the long-continued action of its laws in most widely different states of society. M. de Laveleye and Professor Leslie may succeed in constituting a new science, but they will not utterly revolutionise and destroy the old one in the way they seem to suppose.

The fact is it will no longer be possible to treat political economy as if it were a single undivided and indivisible science. The advantages of the division of labour are as great and indispensable in the pursuit of knowledge as in manual industry; and it is out of the question that political economy alone should fail to avail itself of these advantages. Differentiation, as Mr. Spencer would say, must go on. I should be afraid of tiring you if I were to attempt to trace out in detail the several divisions into which political economy will naturally fall apart. Not only will there be a number of branches, but there are actually two or three different ways in which the division will take place.

There is, firstly, the old distinction of the laws of the science, according as they treat of the production, exchange, distribution, or consumption of wealth. In this respect economy may be regarded as an aggregate of two or more different sciences, there being, in fact, little connection between the principles

which should guide us in production and those which apply in distribution or consumption.

To readers of J. S. Mill's *Principles of Political Economy*, indeed, it may sound strange to hear of consumption as one of the chief branches of the science. Though named last, as being last in the order of time, consumption is evidently the most important of the processes through which commodities pass, because things are only produced in order that they may be consumed usefully. It is unaccountable, then, and quite paradoxical, that English economists should, with few exceptions, ignore the most important branch of their own science, especially after it has been duly treated by J. B. Say, Storch, Courcelle-Seneuil, and many other continental writers, as well as by the excellent Australian economist, Professor Hearn.

Passing now to a second aspect, political economy will naturally be divided according as it is abstract or concrete. The theory of the science consists of those general laws which are so simple in nature, and so deeply grounded in the constitution of man and the outer world, that they remain the same throughout all those ages which are within our consideration. But though the laws are the same they may receive widely different applications in the concrete. The primary laws of motion are the same, whether they be applied to solids, liquids, or gases, though the phenomena obeying those laws are apparently so different. Just as there is a general science of mechanics, so we must have a general science or theory of economy. Here, again, there is a division of opinion. There are those who think that, dealing as the science does with quantities, economy must necessarily be a mathematical science, if it is anything at all. There are those, on the other hand, who, like the late Professor Cairnes, contest, and some who even ridicule, the notion of representing truths relating to human affairs in mathematical symbols. It may be safely asserted, however, that if English economists persist in rejecting the mathematical view of their science, they will fall behind their

European contemporaries. How many English students, or even professors, I should like to know, have sought out the papers of the late Dr. Whewell, printed in the *Cambridge Philosophical Transactions*, in which he gives his view of the mode of applying mathematics to our science? What English publisher, I may ask again, would for a moment entertain the idea of reprinting a series of mathematical works on political economy? Yet this is what is being done in Italy by Professor Gerolamo Boccardo, the very learned and distinguished editor of the *Nuova Enciclopedia Italiana*. Professor Boccardo has also prefixed to the series a remarkable treatise of his own on the application of the quantitative method to economic and social science in general. This series, which forms the third portion of the well-known *Bibliotheca Economista*, will be completed with an Italian translation of the works of Professor Léon Walras, now Rector of the Academy of Lausanne, who has in recent years independently established the fact that the laws of supply and demand, and all the phenomena of value, may be investigated algebraically and illustrated geometrically. From inquiries of this sort the curious conclusion emerges that equilibrium of exchange of goods resembles in mathematical conditions the equilibrium of weights upon a lever of the first order. In the latter case one weight multiplied by its arm must exactly equal the other weight multiplied by its arm. So, in an act of exchange, the commodity given multiplied by its degree of utility must equal the quantity of commodity received multiplied by its degree of utility. The theory of economy proves to be, in fact, the mechanics of utility and self-interest.

Now, too, that attention is at last being given to the mathematical character of the science, it is becoming apparent that a series of writers in France, Germany, Italy, and England have made attempts towards a mathematical theory. Their works have been almost unnoticed, or, at any rate, forgotten, mainly on account of the prejudice against the line of inquiry they adopted. It is much to be desired that some competent mathe-

matician and economist should seek these works out and prepare a compendious abstract of their contents in the manner of Mr. Todhunter's valuable histories of mathematical science. On the present occasion I cannot do more than mention the names of some of the principal writers referred to, such as Lang, Krœneke, Buquoy, Dupuit, Von Thünen, Cazaux, Cournot, and Francesco Fuoco, on the Continent; and Whewell, Tozer, Lardner, Peronnet Thompson, Fleeming Jenkin, Alfred Marshall, and probably others, in Great Britain.

So much for the theory of economy which will naturally be one science, remaining the same throughout its applications, though it may be broken up into several parts, the theories of utility, of exchange, of labour, of interest, etc. partly corresponding to the old division of the science into the laws of consumption, exchange, distribution, production, and so forth. Concrete political economy, however, can hardly be called one science, but already consists of many extensive branches of inquiry. Currency, banking, the relations of labour and capital, those of landlord and tenant, pauperism, taxation, and finance, are some of the principal portions of applied political economy, all involving the same ultimate laws manifested in most different circumstances. In a subject of such appalling extent and complexity as currency, for instance, we depend upon the laws of supply and demand, of consumption and production of commodities as applied to the precious metals or other materials of money. In the science of banking and the money market we have a very difficult application of the same laws to capital in general. This separation of the concrete branches of the science is, however, sufficiently obvious and recognised, and I need not dwell further upon it. The general conclusion, then, to which I come is that political economy must for the future be looked upon as an aggregate of sciences. A hundred years ago it was very wise of Adam Smith to attempt no subdivision, but to expound his mathematical theory (for I hold that his reasoning was really mathematical in nature) in conjunction with concrete

applications and historical illustrations. He produced a work so varied in interest, so beautiful in style, and so full of instruction that it attracted many readers, and convinced those that it attracted. But economists are no more bound to go on imitating Adam Smith in the accidental features of his work than metaphysicians are bound to write in the form of Platonic dialogues, or poets in the style of the Shakespearian drama. With the progress of industry how many hundreds or even thousands of trades have sprung up since Smith wrote! With the progress of knowledge how many sciences have been created and subdivided again and again! The science of electricity has been almost entirely discovered since 1776, yet now it has its abstract mathematical theories, its concrete applications, and its many branches, treating of frictional or static electricity, dynamic electricity or galvanism, electro-chemistry, electro-magnetism, magnetism, terrestrial magnetism, atmospheric electricity, and so forth. Within the same century chemistry, if not born, has grown, and is now so vast a body of facts and laws that professors are appointed to teach different parts of it. Yet the political economist is expected to teach all parts of his equally extensive and growing science, and is lucky if he escape having to profess also the mental, metaphysical, and moral sciences generally.

Nor can I doubt that in the future new developments of the science of economy must take place. Whether it be a science or not, or one science, or many sciences, there is certainly an immense work to be done by this or some closely related branches of knowledge. If necessity is the mother of invention, as people are so fond of saying, then many new sciences ought soon to be invented. When listening to the speeches at the centenary dinner I was much struck with the contracted view which seemed to be entertained of the work remaining to be accomplished by economists. Mr. Gladstone spoke as follows :—

> I am bound to say that this society has still got its work before it. . . . I do not mean to say that there is a great deal remaining to be

done here in the way of direct legislation, yet there is something. It appears to me, at least, that perhaps the question of the currency is one in which we are still, I think, in a backward condition; our legislation having been confined in the main to averting great evils rather than to establishing a system which, besides being sound, would be complete and logical. With that exception, perhaps, not much remains in the province of direct legislation.

Mr. Lowe also, as shown in a quotation from his speech already given, took a similarly desponding view of the powers and province of economy. To my mind, however, our whole social system seems to bristle with questions which will have to be decided one way or the other, and to a great extent upon economical grounds. Whether I look at the homes of the mass of the people, at workhouses, or hospitals—whether I consider the gambling of the Stock Exchange, the perplexity of bankers, anxious at one time to get money, at another to get rid of it, the endless discussions of workmen and masters, the diversion of the lands of the country from their proper uses, the scandalous waste of endowments—I cannot help feeling that the work before economists is more than ample.

I cannot better illustrate the need of more accurate economic knowledge in some directions than by adverting to one of the principal points in debate at the centenary dinner. Mr. Newmarch, the treasurer of the club, threw in an apple of discord when he expressed a hope that political economy would lead to a restriction of the sphere of government. He said:—

On one of the points mentioned by Mr. Lowe with respect to political economy in its relation to the future, I am sanguine enough to think that there will be what may be called a large negative development of political economy, tending to produce an important and beneficial effect; and that is, such a development of political economy as will reduce the functions of government within a smaller and smaller compass. The full development of the principles of Adam Smith has been in no small danger for some time past; and one of the great dangers which now hangs over this country is, that the wholesome spontaneous operation of human interests and human desires seems to be in course of rapid supersession by the erection of one government department after another, by the setting up of one set of inspectors after another, and by the whole time of parliament being taken up in attempting to

do for the nation those very things which, if the teaching of the man whose name we are celebrating to-day is to bear any fruit at all, the nation can do much better for itself.

Now it would not create much surprise if, on a point like this, professional economists should differ like doctors. Accordingly my predecessor, Mr. Courtney, the honorary secretary of the club, took occasion to protest against the doctrines of the honorary treasurer being considered as those accepted by the club, at least as regards legislation upon land tenure. But it was very interesting to find that the practical statesmen were quite as much divided as the economists upon this point. While some supported Mr. Newmarch, one whom I can never help admiring for his firm consistency and the inestimable benefits which he has conferred upon this country in the passing of the Education Act, namely, Mr. W. E. Forster, took the exactly opposite view.

"I am strongly of the contrary opinion," he said, "that we cannot undertake the *laissez-faire* principle in the present condition of our politics, or of parties in parliament, or in the general condition of the country. I gather from Mr. Newmarch's remarks that he is an advocate of the old *laissez-faire* principle. Well, if we were all Mr. Newmarches, if we had nothing to deal with in the country but men like ourselves, we might do this. But we have to deal with weak people; we have to deal with people who have themselves to deal with strong people, who are borne down, who are tempted, who are unfortunate in their circumstances of life, and who will say to us, and say to us with great truth: What is your use as a parliament if you cannot help us in our weakness, and against those who are too strong for us?"

Now it is impossible to doubt that the *laissez-faire* principle properly applied is the wholesome and true one. It is that advocated by Adam Smith, and it is in obedience to this principle that our tariff has been reduced to the simplest possible form, that the navigation laws have been repealed, that masters and labourers have been left free to make their own bargains about wages, and that a hundred other ingenious pieces of legislation have been struck out of the Statute Book. But does it follow that because we repeal old pieces of legislation we shall need no new ones? On the contrary, as it seems to me, while popu-

lation grows more numerous and dense, while industry becomes more complex and interdependent, as we travel faster and make use of more intense forces, we shall necessarily need more legislative supervision. It has been well said, I think by Professor Hodgson, that the labourer need only ask of the statesmen what Diogenes asked of Alexander, that he should stand out of his light. Now, it was quite proper and reasonable that Alexander should not obstruct the light of Diogenes; but what if other people should come and stand in Diogenes' light, or, overlooking anachronisms, street musicians should disturb his sleep and render study impossible, or, finally, carrying companies should carelessly convey gunpowder close behind his tub and blow it to bits; would Alexander have been justified in standing calmly by and quoting *laissez-faire* doctrines like those of the French economists and Adam Smith? I think not, and I believe that it will be found impossible to dispense with more and more minute legislation.

The numerous elaborate bills which each Government of England has in late years attempted to pass, but generally without success, is the best indication of the needs felt. But I quite agree with Mr. Newmarch and Mr. Lowe that we should not proceed in this path of legislative interference without most careful consideration from a theoretical, as well as a practical point of view, of what we are doing. If such a thing is possible, we need a new branch of political and statistical science which shall carefully investigate the limits to the *laissez-faire* principle, and show where we want greater freedom and where less. It seems inconsistent that we should be preaching freedom of industry and commerce at the same time that we are hampering them with all kinds of minute regulations. But there may be no real inconsistency if we can show the existence of special reasons which override the general principle in particular cases. I am quite convinced, for instance, that the great mass of the people will not have healthy houses by the ordinary action of self-interest. The only chance of securing good sanitary arrange-

ments is to pull down the houses which are hopelessly bad, as provided by an Act of the present ministry, and most carefully to superintend under legislative regulations all new houses that are built.

I will go a step farther, and assert that the utmost benefits may be, and, in fact, are secured to us by extensions of Government action of a kind quite unsanctioned by the *laissez-faire* principle. I allude to the provision of public institutions of various sorts—libraries, museums, parks, free bridges.

Community of property is most wasteful in some cases, as in the old commons, or unpreserved oyster beds; but these are cases of the community of production. Community of consumption, on the contrary, is often most economical. The same book in a public library may serve a hundred or five hundred readers as well as one. The principle may be illustrated by the case of watches and clocks. On reasonable suppositions I have calculated that a private watch costs people on the average about one-fifteenth part of a penny for each look at the time of day; but a great public clock is none the worse, however many people may look at it. As a general rule, I should say that the average cost of public clocks is not more than one-hundred and fiftieth of a penny for each look, securing an economy of ten times. The same principle may, however, be called into operation in a multitude of cases, most notably, however, as regards the weather. A well-appointed meteorological office with a system of weather forecasts will be a necessary part of every Government, and will secure the utmost advantages to the community at a trifling cost. I see no reason, again, why our streets and roads should, as a general rule, be fit only for passing along and getting out of as quickly as you can. With a trifling expenditure they might often be converted into agreeable promenades, planted with trees, and furnished with seats at the public cost. Our idea of happiness in this country at present seems to consist in buying a piece of land if possible, and building a high wall round it. If a man can only

secure, for instance, a beautiful view from his own garden and windows, he cares not how many thousands of other persons he cuts off from the daily enjoyment of that view. The rights of private property and private action are pushed so far that the general interests of the public are made of no account whatever.

But the nicest discrimination will be required to show what the Government should do, and what it should leave to individuals to do. I do not in the least underestimate the wastefulness of Government departments, but I believe that this wastefulness may be far more than counterbalanced in some cases by the economy of public property.

I have said enough, I think, to suggest that there are still great possibilities for us in the future. It will not do in a few sweeping words to reassert an old dictum of the last century, and to condemn some of the greatest improvements of the time because they will not agree with it. Instead of one dictum, *laissez-faire, laissez-passer*, we must have at least one science, one new branch of the old political economy. Were time available I might go on to show that this is by no means the only new branch of the science needed. We need, for instance, a science of the money market and of commercial fluctuations, which shall inquire why the world is all activity for a few years, and then all inactivity; why, in short, there are such tides in the affairs of men. But I am quite satisfied if I have pointed out the need and the probable rise of one new branch, which is only to be found briefly and imperfectly represented in the works of Mill or other economists.

The future of political economy is not likely to be such a blank as some of the speakers at the centennial dinner would lead us to suppose. I hope that the Political Economy Club may exist long enough to hold their second centennial celebration of the *Wealth of Nations*, and that then the disrupted fragments into which political economy seems now to be falling will have proved themselves the seeds of a new growth of beneficent sciences.

THE MATCH TAX

A PROBLEM IN FINANCE

(A pamphlet first published by Edward Stanford, 6 and 7 Charing Cross, London, 1871. See Preface, p. xiv.)

THE MATCH TAX

A PROBLEM IN FINANCE

I PROPOSE to occupy the following pages with a careful inquiry into the merits or demerits of the tax on lucifer matches. That tax has been abandoned, but I do not think that the subject has therefore lost all interest. The recent budget of the Chancellor of the Exchequer was received both by the House of Commons and by the people with unquestionable disfavour; but it is not quite clear how far this disfavour was due to the real demerits of the proposals, or how far it might arise from mere vexation of spirit at the necessity of raising additional revenue.

The public disapprobation was chiefly concentrated upon the proposed new tax, which was variously denounced as "reactionary," as "violating the first principles of financial administration," or even as "the very worst tax that has been proposed within recent memory." I cannot say that among the mass of articles upon the subject which appeared in the daily press, I found evidence of much care in calculating and estimating the real effects of the proposed Match Duty. It is worthy of remark that *The Spectator*, which had apparently bestowed more inquiry upon the subject than any other newspaper coming under my notice, was rather in favour of the proposed duty. The fact that this Match Tax was a favourite notion of so eminent and enlightened a free-trade financier as Mr. Wells, ought to have secured for the proposal a more careful and respectful examination on the part of the English press and public. The tax is also likely to be adopted in Italy and

France. Hence I do not think it superfluous to take up the subject, and, with the advantage of time for inquiry and deliberation, to attempt to measure at their true value the numerous objections brought against the tax.

I cannot believe that the present Government, a cabinet of financiers, as it has been called, could have made this unexpected proposal without some good reasons. It must be a very strong Government indeed that could afford to impose new taxes out of mere gaiety of heart. But new taxes must usually be imposed with some degree of suddenness and secrecy, otherwise the first year's revenue would be wholly lost, and most unfair profits would fall to those who contrive to gain the earliest information. No time can thus be given for previous deliberation, and if some trust be not placed in the ministers who are responsible for the proposal, we may find ourselves in the somewhat absurd position of deliberating after the occasion is passed.

At the present time, we cannot give too much attention to the principles and rules of taxation which we accept. We are at the critical point where one great and true policy has been nearly, if not quite, accomplished; and without any strong guiding principle like that of free trade before us, we are in danger of drifting instead of carefully steering, in our financial course. If one half of the doctrines and arguments which were brought against this Match Tax should be accepted as really true and cogent, the balance of our financial system would be in danger of complete derangement. I consider it therefore a matter of no slight importance to pass under calm and impartial examination the various opinions hastily uttered during the recent warm discussion; and I will attempt to estimate fairly both the real objections which may be urged against the tax, and the reasons which may be found to exist for the selection of such a new impost at the present time.

I shall divide my inquiry into three parts. Beginning with the most simple points, I shall try to ascertain whether the tax

could have been brought into successful operation, many persons having asserted off-hand that it was impracticable. Supposing it to pass muster in this respect, I shall proceed to the more difficult inquiry whether it is theoretically a good tax, and in harmony with the fundamental principles of political economy. It will still remain to be decided whether the tax is needed, and suitable in its general character and incidence to form a part of our financial system.

PRACTICAL OBJECTIONS TO THE TAX

There is hardly a limit to the variety of difficulties and evils which may be found to result from the imposition of a tax. We may start with the concession that every tax is bad; but as we must have revenue, the question really takes the form whether one tax is bad compared with others existing or proposed. I shall therefore consider the comparative advantages or disadvantages of the Match Tax, in regard to a list of practical difficulties, which I have made as exhaustive as possible. A tax may be bad, then, because it is subject to—

1. Fraudulent evasion.
2. Non-fraudulent evasion.
3. Costliness of collection, as regards the Government.
4. Costliness to the public in money.
5. Loss of time and trouble on the part of the public.
6. Interference with home trade.
7. Interference with foreign trade.
8. Unpopularity.
9. Incidental objections.
10. Inadequacy of returns.

1. *Fraudulent Evasion.*—There can hardly be a greater evil in a tax than that it opens an artificial path to dishonest gains; and if there be any considerable chance of such evil arising in the operation of the Match Tax, it is sufficiently condemned. But it is stated that in America the tax is collected with peculiar ease and certainty, because the public necessarily assist the revenue officers in detecting fraud. It is the peculiar

excellence of the stamp system that every purchaser of an article has evidence upon the article whether the duty has been paid or not. A manufacturer surreptitiously sending out unstamped goods cannot know that they will all fall into the hands of unprincipled persons; and the danger of detection either by honest persons or the revenue officers is too great to be incurred by direct disregard of the law.

Various suggestions have been, or may be, made as to disguised modes of evading the tax. Forgery is not to be feared, since it is capable of easy and sure detection, and is not found to occur with more valuable stamps. *The Economist* suggested that the tax would lead to the sale of two-ended matches, and as matches are usually made in that form in the earlier stages of the process, it would have been quite possible. But I find that in the printed Bill introduced into Parliament, and ordered to be printed on the 21st April, provision was made for this difficulty in the interpretation clause, which says: "When any match has more than one point or part prepared as aforesaid, every such point or part shall be deemed to be and shall be counted as a separate match."

The tax would be partially evaded again, if the boxes were filled with more matches than was allowed by law for the stamp affixed. But, on the least thought, it is evident that the manufacturers or retailers cannot announce publicly that they break the law, and they can only make the public aware of the fact by systematically over-filling the boxes, which would not only be exceedingly costly to them, but would infallibly lay them open to detection. A much surer and safer profit would be made by *under-filling* the boxes, which indeed is the common way of under-selling in the match trade at present.

The only mode in which I should fear evasion would be by the collection and refilling of old stamped boxes, to which there would be some temptation on the part of small retailers or hawkers. But old stamps and boxes would be unsaleable, except to unprincipled manufacturers, and full penalties were

provided in the Bill against such a practice. Moreover, the stamp was to be affixed so that the box could not be opened without tearing it. The most closely analogous taxes, those on playing-cards and patent medicines, both marked by stamps on the cases, are collected without any fraud worth mentioning; and where the stamp is of so slight a value as a halfpenny there is no reason to fear any appreciable evasion by malpractices.

2. *Non-fraudulent Evasion.*—It is often possible to avoid a tax without committing fraud, as by substituting some other article, or even dispensing with the article altogether. It may sometimes be an advantage in an indirect tax that the payer may regulate his consumption in accordance with his means, and contribute more or less as he thinks proper; but on the other hand the Government ought not to put people to the inconvenience or harm of altering their habits needlessly. We have given up the notion that people are in unimportant matters to be guided in the way they should go. There ought as a general rule to be freedom of life as well as freedom of trade. The stamp tax would have been a very bad one had it been possible to dispense with matches altogether, as for instance by retrograding to the old tinder-box or the fire-sticks. If people by long trial have found matches in a certain quantity desirable, it is hurtful to them to be forced to any less convenient habit. But we must compare the inconvenience with the revenue produced, and must remember that extensive losses by fire, as well as loss of life by poisoning and fire, do arise from the careless use of matches. Taxation is not a subject in which principle alone can guide us; though a high place must be given to principle, all circumstances must be taken into account. Now the match tax would not be wholly evaded, because however dear matches were made they would remain greatly preferable to other modes of getting fire; and though some slight inconvenience would arise from reduced consumption, it would be to a great extent balanced by the prevention of accidents, or by the saving of money now spent on a needless use of matches.

3. *Costliness of Collection.*—A tax may be defective because it absorbs in the expenses of the revenue department a considerable percentage of its own yield. It is an unavoidable evil of most indirect taxes that they are costly; thus of the whole expenditure of the Government in 1869, 6·7 per cent (or about five millions in seventy-five millions) was absorbed by the charges of collection. There are indeed many useful or even indispensable public services incidentally performed by revenue officers, and Mr. Dudley Baxter considers that the actual cost which can be fairly debited to the collection of revenue amounts to 6 per cent in the case of customs duties and 4 per cent on the aggregate of the inland revenue. Now the Match Tax would not be costly, comparatively speaking. I have ascertained from the revenue authorities that the cost of the stamps would be 7d. per thousand, or about £30 per million; so that the percentage on the revenue would be £1 : 8s., or say 1½ per cent. I have no exact information as to the amount it would be requisite to add for office expenses and revenue officers, but I cannot suppose it to exceed 1 per cent. In the Bill it was proposed to allow a discount of 1 per cent for prompt payment of duty in sums of more than £50 at a time, but this may be regarded as rather a decrease of the tax, or a diminution of the charge to the public. I estimate the cost of collection, therefore, at 2½ per cent, which is considerably less than the average, though not so low as in the case of some direct taxes.

4. *Costliness to the Public.*—It is an inconvenience in all indirect taxes that they throw a somewhat greater burthen on the public than is represented by the revenue yielded. Those who pay the tax in the first instance require interest upon the capital temporarily invested, and it is believed by some persons that the effect of customs and excise duties is thus increased 20 per cent or more. I do not know that the evil is entirely confined to those taxes. In the case of many stamp duties the effect of interest must be very serious, because the duty paid is often charged against the capital account of a business—it is

as much a charge upon industry as would be a duty on the materials of manufactures.

The Match Tax seems to me to be subject to such inconveniences in a very slight degree. Matches are articles of direct household consumption, hence the tax falls upon the consumption rather than the production of wealth, and there is no ulterior effect upon the industry of the country. No one is in any appreciable degree hindered in his business because his wife or servants use a few less matches, and pay a few pence more for them. *All taxes ought as far as possible to fall upon the consumer at the moment of consumption, and few taxes could be devised which are more clearly correct in this respect than the Match Tax.*

As a general rule the match trade is, I believe, a regular and steady one, in which there is an even demand. Thus the stocks kept need not bear more than a small proportion to the quantity manufactured. Moreover every match manufactory would act as a natural bonding warehouse, because the manufacturer would not be required to stamp the boxes until they are actually delivered out to purchasers. There is, indeed, some decrease of demand for matches during the summer, which leads to a certain accumulation of stock towards the beginning of winter, but there would not have been the least necessity to pay duty upon this stock until it was wanted for consumption. It was proposed, too, that the manufacturer should receive credit for the duty during a period which would average one month, so that the matches would often have been consumed before the duty was paid. Nevertheless, as the manufacturers give three months' credit or five per cent discount, it must be allowed that they would suffer a loss of interest during about two months, for which they would require a recompense of between three and four per cent on the value of the stamps. Hence arises a charge to the public of about 2½d. per gross of match-boxes. But this is not all. The labour of affixing the stamps to the boxes is not inconsiderable, and I am informed by manufacturers that it would cost 2d. per gross of boxes, or about 2·8 per cent on the tax.

Various slight inconveniences would also arise in the operations of manufacture. At present it is found desirable to put up the match-boxes in packing-cases as soon as they are completed, in order that they may be out of the reach of accident. Were the matches expected to remain long in stock it would become requisite to keep them unpacked at increased risk, or else unpack them again for the purpose of stamping. I have no exact information as to the probable cost of the incidental changes in manufacture which would thus become requisite, but they would be very slight, and I venture to assign 1d. per gross; so that the whole charges to the cost of manufacture would be :—

	d.
Interest on Capital invested in Stamps	$2\frac{1}{2}$
Cost of affixing Stamps	2
Incidental Charges	1
Total per gross of boxes . . .	$5\frac{1}{2}$

The manufacturers affirm, indeed, that there would be considerable increase to the risks of their business. The stamps might be destroyed, lost, or purloined by work-people; the stamped boxes might be accidentally burned or crushed. If the wholesale price of the matches is trebled by the tax the risk of every kind is trebled. But it appears to me that the purloining of stamps would be readily prevented, and is almost out of the question, because the stamps would be unsaleable and valueless except at a match manufactory. Damaged stamps might, if it were found worth while, be allowed for by the revenue department, as in the case of other damaged stamps. If not, the destruction of stamps would not be real loss to the country, since it would increase the revenue, and add slightly to the rate of the tax. I think that 1d. per gross is ample allowance for all such additional pressure of the tax.

It may seem indeed that I have overlooked the risk of bad debts, which will extend not only to the cost of the matches,

but the value of the stamps. In reality the ordinary discount of five per cent for prompt payment represents mercantile risk as well as interest. It means that the manufacturer is in the long run indifferent whether he waits three months with the chance of not receiving the money at all, or receives the money down, with a reduction of five per cent. I conceive, therefore, that the allowance of $3\frac{1}{3}$ per cent, or $2\frac{1}{2}$d. per gross, which I have already made for so-called interest really includes an allowance for bad debts. Accordingly I estimate the whole additional charge to the public beyond the amount of the tax arising from inconvenience in the wholesale trade, as follows :—

	d.	
Interest and risk of Capital	$2\frac{1}{2}$	per gross.
Cost of affixing Stamps	2	,,
Cost of other Charges in trade	1	,,
Destruction of Stamps	1	,,
Total	$6\frac{1}{2}$	

As the destroyed stamps would be added to the revenue, I cannot calculate the real loss to the public at more than $5\frac{1}{2}$d., or rather less than 8 per cent on the amount of revenue.

In this estimate, however, we have followed the article only into the hands of the wholesale dealer. The actual retailer of matches makes profits varying from about 12 per cent up to 200 or 300 per cent. In the retailing of such cheap things as matches there is really no rule or method. The boxes are bought as cheaply as possible and sold for a convenient coin. The very same matches costing wholesale $2\frac{1}{2}$d. per dozen will be sold to some customers at $\frac{1}{2}$d. each and to others at three for 1d., so that two different rates of profit, 100 per cent and 60 per cent, are indifferently applied. The fact is that such profits have no relation to the interest of money whatever. It is the labour of distributing the goods which is by far the most important consideration in the case of many small retail trades like those of druggists, grocers, smallware dealers, etc. It

cannot be seriously asserted that a poor hawker of matches, who starts in the morning with a shilling's worth and returns at night with his money doubled or trebled, is earning *interest* on his capital. If so the interest would be 100 *or* 200 *per cent per day.* It is really the wages of labour that the seller of matches earns. Accordingly I see no need to suppose that the retailer need earn more when the price of the matches is increased than before. All legitimate trade would go on well enough if the rate of profit were somewhat reduced and equalised, and it is possible that the tax might effect some good by reducing the profit on matches sold as a disguise to mendicancy.

I have never been able to meet with any exact estimates of the loss to the public arising out of interest and risk upon other indirect taxes, though it is often stated as high as 30 per cent, and I have myself assumed it at 20 per cent. Other duties involve the cost of the bonding system, and the interference of the excise officer with the operations of malting and distilling. If we pay regard then to the simple and rapid character of the trade in matches, the ease with which the payment of duty can be deferred until the matches are wanted for consumption, with a credit of one month added, we must perceive that the Match Tax would be comparatively speaking an economical one, requiring a less addition to the expenses of manufacturing and retailing than is usual in the case of indirect taxes.

5. *Loss of Time and Trouble to the Public.*—Financiers are hardly sufficiently alive, I think, to the loss of time and trouble to the payers of taxes which they often occasion. The stamp duties are especially irksome in this respect; a person requiring to get a receipt for money may sometimes lose a quarter of an hour in obtaining a penny stamp, so that the loss of labour is many times as great in value as the revenue paid. Could we estimate the whole loss by the delay, hindrances, and uncertainty occasioned in business by the stamp duties, it would be found to form, I believe, a very considerable percentage upon

the revenue yielded. People bear these charges with almost unreasonable patience. Now it is a peculiar merit of the stamp on matches that it would occasion no trouble whatever. The stamps would be purchased by the manufacturer in thousands or even millions, and affixed with great rapidity by skilful practised hands. The stamp would serve in some degree to keep the box closed till wanted, and all the public would have to do would consist in tearing the stamp while opening the box. I set the tax down as wholly unexceptionable in this respect.

6. *Interference with Home Trade.*—The most disagreeable fact connected with the Match Tax is the undoubted effect it would have had in throwing a number of poor persons out of employment for a time. During the first year or even two years after the imposition of the tax, the trade would have been in a state of considerable depression and confusion. There are no means of deciding how far the consumption of matches would have been reduced by the doubling of the retail price. We may indeed apply to this case the observation of Dr. Chalmers[1] that the price of a commodity which forms a very small part of a person's expenditure has not a great effect upon its consumption. A household expends so little upon nutmeg, for instance, that if the price were doubled or trebled there would be no appreciable motive for economy. The same principle will hold true in some degree of matches, and I should not anticipate a reduction in consumption of more than one-third part. I find that this opinion exactly coincides with that of some leading manufacturers.

The trade would not be depressed to the same amount, because to some extent they work for foreign markets, and the export trade, as I shall show, would be quite free from hindrance. I find from the Board of Trade returns that the total value of the matches exported in 1869 was £175,273, and if we take the average wholesale price of the matches consumed

[1] *Christian and Economic Polity of a Nation*, vol. ii. p. 251.

in the country as high as ¼d. per box, their value will be about £600,000. If the home consumption be reduced one-third part, then the total change in the trade will be from £175,000 + £600,000 to £175,000 + £400,000, or by the amount of 26 per cent. But I should think the manufacturers might push their foreign trade to a slight extent, and thus prevent the whole production from falling more than about 20 per cent.

I have despaired of obtaining any accurate information as to the number of persons engaged in the trade; the Census Tables are wholly astray on this point, giving the number as 532, not a tenth part of the truth. The match-box makers consist to a great extent, especially in London, of young children working at home. This work is capable of being learned at a very early age. These children have then no peculiar knowledge or skill to be thrown away, and when they are of a fit age for work they can be absorbed in any other trades which exist in the neighbourhood.

The fixed capital involved in the trade is not of serious amount. The small manufacturers often get their blocks of wood sawn at public saw-mills; the boxes are made at the workers' houses, so that beyond the slicing machines for cutting the splints and the thin wood for boxes, the frames for holding the matches, and possibly a machine for arranging the splints in the frames, there is no peculiar fixed capital of noticeable value.

When once the contraction of the trade to the extent of a fourth or fifth part was effected, there would no longer be any hardship. The time ought to be past when the common plea that people must have employment found for them, can meet with attention. Men, women, and children are not born specially to be match-makers, and if by the wise organisation of our finances we can promote the general prosperity of trade and industry it is no matter of regret that a few hundred or a few thousand children have been transferred from one occupation to a more useful and healthy one. The safety and welfare

of all requires that revenue shall be raised. If we increase the duty on tea or sugar, not only do we deprive some people of their ordinary comforts, enforcing economy in a point where it is far less desirable than in matches, but by depressing foreign trade we lessen the employment of those who, in any part of the country, produce goods for exportation. As for those who thought the corn duty better than the Match Duty, their proposal amounts to taxing millions of the very poor for years to come with a burden several times as great in proportion to the revenue yielded as the Match Tax would have caused. This fact I shall demonstrate farther on. (See pp. 240-242.)

It is doubtless an unfortunate point in the tax that it produces a sudden and sharp though temporary hardship to a definite class of persons. But at its worst the result would not be nearly so great as what is often caused by a strike of moderate extent; and I can only say that if we once allow reforms to be impossible because some persons will suffer from them, then all reforms become impossible. No minister can suggest a single measure which will not hurt some persons. It is the law of nature and the law of society that the few must yield to the good of the many, provided that there is a clear and very considerable balance of advantage to the whole community. It is a matter of opinion whether in this case the balance of advantage was sufficiently great to warrant the measure.

7. *Interference with Foreign Trade.*—Such a tax as that which we are considering should certainly fall upon articles *consumed* in the kingdom, and should leave foreign trade wholly untouched. Members of Parliament and other persons appeared to think that this object could have been accomplished in the case of the Match Duty, only by granting a drawback upon matches exported. They assumed that it would be requisite to stamp all boxes, and *The Economist* even went so far as to suggest that by paying the duty on boxes containing 100 matches each, and then claiming drawback on the same

matches made up in boxes of 50 each, a great but of course fraudulent profit could be made. Had a drawback been necessary, it would have consisted in repaying one halfpenny for every *stamp* upon a box exported, and it is for the writer in *The Economist* to explain how his ingenious suggestion could have been carried out. Had the number of boxes been doubled, a double number of stamps would have been required, before a double drawback could have been received.

But the fact is the Government expressly provided in the Bill that *matches intended for export should not require stamps at all.* Just as playing-cards are exported free of duty, according to the regulations of the 25th Victoria, cap. 22, sec. 37, so matches might have been exported. A manufacturer wishing to export playing-cards, simply sends a notice to the proper revenue officer, and receives in return a certificate allowing him to convey the unstamped cards upon any vessel named in the notice. In the case of matches, all that would have been requisite was to secure them in proper packing-cases, send notice to the revenue officer, and convey them direct on board ship, and with the exception of the notice to the officer this is what is usually done at present.

There could not be said, therefore, to be any interference at all with export trade, and as no fraud is found to arise under similar regulations concerning the export of playing-cards, on which the duty is six times as high, it is not to be supposed that any fraud would be attempted with matches.

As regards the trade in foreign matches, the importer need not have stamped them until about to sell them for home consumption. If desiring to re-export them, he would have the same facilities as a manufacturer. But it must be allowed that some slight cost and inconvenience would arise from the necessity of opening packages of foreign matches, and stamping the boxes before they could be forwarded to the retailer, so that the tax would operate in a slight degree against the consumption of foreign matches, and therefore in favour of

home producers. This is a point which the English manufacturers failed to perceive.

8. *Unpopularity.*—We cannot refuse altogether to consider the feelings of the taxpayers when we impose or even retain a tax. If people choose to part with their money more readily in one way than another, I suppose a wise financier will pay some regard to the fact. I consider that a moderate hearth tax would be an excellent measure in this kingdom, but no one would venture to propose the re-imposition of that tax, simply on the ground of the antipathy known to exist to it. Now if the population as a whole, whether upon reasonable or unreasonable grounds, have an antipathy to the stamp on matches, there is an end of the matter. The Government cannot always engage to teach people what is best for them, and as we are never likely to convert this kingdom into Utopia, I suppose we must pay some attention to the most unreasoning prejudices. It may be very absurd, but I believe that the strongest objection to the stamp on matches was that people would constantly have the symbol of taxation before their eyes. Most of the indirect taxes are paid unconsciously, and raise no murmurs. Many of the stamp duties, though really exceedingly troublesome, are patiently borne, because they become associated with agreeable incidents, such as the receipt of money, the completion of important business, the conferring of authority, etc. Every one knows how important it is to ask for money at the right moment and in the right manner. But if after the fact is known we condemn the Match Tax as simply unpopular, let us acknowledge the ground on which we do it. Let us also remember that it is hardly possible to foresee the turns which human caprice will take.

9. *Incidental Objections.*—A tax often leads to curious results which are not intended, and are sometimes impossible to foresee. Some manufacturers for instance have roundly asserted that this Match Tax would lead to a general deterioration in the quality of matches, and I have tried to make out whether this

would really be the effect. The general tendency of an impost fixed in proportion to quantity, is certainly in the opposite direction, for according as the value of goods is higher, so the proportional pressure of the tax is less. Thus wine, subject to the duty of 1s. per gallon, may vary in value from 2s. to 30s. per gallon, so that the poorer wine is increased in value 50 per cent and the finer only 7 per cent.

Now the general tendency in the case of matches would be the same, and owing to the comparatively large amount of the duty it ought to have a strong effect. Thus I think it is quite clear that the very cheapest boxes of matches would be put out of existence altogether. The very poor, with their usual mistaken notions of economy, purchase small boxes at ¼d. each. I have found such boxes containing as few as 34 matches, and the average is about 40. They are sold in the very same shops where large penny boxes may be had containing 250 good matches. Poor people thus often waste 30 per cent of their money at least by buying in dribblets. These farthing boxes would be destroyed by the tax, for it would be too absurd to pay ¾d. for 40 matches when twice the number or more could be had for a penny.

But the halfpenny boxes form the great bulk of the trade, and it is a difficult question to decide whether such boxes could with the duty be sold at 1d. each. The wholesale price is at present commonly 2s. 6d. per gross, and manufacturers inform me that with the tax it would rise to 10s. per gross, which would certainly leave insufficient profit for the purely retail trade at 1d. each. Using the previous estimate (see p. 217) of the effect of the tax, I find that the price would probably be :—

	s.	d.	
Present wholesale prices of boxes . . .	2	6	per gross.
Stamps	6	0	,,
Incidental expenses in manufacture . .	0	6½	,,
Wholesale price, with Tax	9	0½	,,

Thus we find that there would remain about 3s. per gross profit to the retailers, while at present the profit varies between 1s. 6d. and 3s. 6d., according as the boxes are sold at three or two a penny. If the boxes are to be sold at 1d. each, the retailer must accept a profit of about 3s. and yet must invest more than three times as much capital as before. It is a matter of opinion whether the trade could go on under such conditions. I think it not improbable, because, as I have said, the profits of the retailers are not interest, but chiefly recompense for trouble, and there is no rule or method in the present rates of profit, which are in some cases three times as great as in others.

But it certainly seems impossible to improve or increase the present ½d. boxes if they were with the tax to be sold at 1d. The match trade is at present very lax with regard to numbers; the best makers distinguish their boxes according as they contain 50, 100, 150, or 200; but these are only the "nominal contents," or even "nominal reputed contents," and every one who knows the difference between a *reputed pint* bottle and an *imperial pint* will appreciate the meaning of "*nominal reputed contents.*" In fact boxes reputed to contain 100 matches often contain only 60, and rarely more than 85. To diminish the proportional weight of the tax it would of course be desirable to substitute "full count" boxes of between 90 and 100 matches, but this would be apparently impossible were the boxes to sell at 1d. There is an obvious inconvenience in raising the retail price beyond 1d. I am inclined to think that had the tax been imposed, only a comparatively small portion of the trade would have consisted of superior full-count boxes at 1½d. or 2d. each, while the main bulk of the matches would have been boxes just such as are now sold at ½d., but raised in price to 1d. A tax of ⅓d. per box of 100 would probably have led to a general improvement, owing to the fixedness of price of 1d.

In the letter of Messrs. Bryant and May which appeared in *The Times* of 24th April 1871, they asserted that one effect of

the tax would be to discourage the use of safety matches, and thus increase instead of diminish the risk of fire. This would be a result much to be deplored, but I see no reason to fear it. In the first place safety matches have made little real progress. They have been in existence twenty years, ever since the Exhibition of 1851, and yet they form only a very small portion of the total quantity now used. At a great number of small shops where matches are sold they are unknown. This does not solely arise from their greater price, for I am told on good authority that they might be made as cheaply as common matches if there were a sufficient demand for them, and I have met with good little boxes of safety matches, "the English safety Tandstickor," containing 60 matches for ½d. or 5d. per dozen. Messrs. Bryant and May's well-known boxes appear to contain about 85 to 90 at 1d. each, or from 9d. to 10d. per dozen. The fact is that these matches are at present considerably dearer than other kinds owing to their being better made. There are only a comparatively limited number of housekeepers in the country who have the sense to prefer safety matches, and I see no reason to suppose that they would change their opinion upon the imposition of the tax. It is evident that the dearer matches will rise less in price proportionally than cheaper matches, so that, with a little re-arrangement in the size of the boxes the stamp might be made to act in favour of rather than against the high-class safety matches.

10. *Inadequacy of Returns.*—There are two extremes to be avoided in taxation. If we have very few taxes, their pressure is sure to be uncertain and irregular. Some persons will pay unduly, or, as is more likely, they will manage to shift part of the burden to other people in various undesirable modes. On the other hand, if we have a great number of small taxes, the interference with freedom, the complexity of legislation, and the cost of collection become great compared with the revenue raised. We should therefore aim at maintaining or devising a limited number of taxes, each of which will return a good round

sum. The Match Tax cannot be approved then unless it returns a considerable profit to the Government.

I have attempted in various ways to learn how nearly the Chancellor of the Exchequer approximated to the truth in the estimates he gave concerning the match trade: replying to a question in the House of Commons, he thus stated the supposed amount of matches produced and consumed:—

	Number of Boxes of Matches.
Produced in the United Kingdom . . .	560,000,000
Fuzees	45,000,000
Imported	35,000,000
	640,000,000
Exported	135,000,000
Consumed in the Kingdom	505,000,000

Many persons were incredulous as to such a vast quantity being consumed, but if we take the average contents of the boxes at 70 matches, it will be found that the quantity stated amounts only to about *three matches per day per head.*

At one halfpenny each this number of boxes would yield a revenue of about £1,052,000. If we assume that the reduction of consumption would amount to one-third part, there remains a revenue of £700,000. It is to be remembered, however, that at present comparatively few boxes of matches contain 100, and no inconsiderable portion of the whole are farthing boxes containing only about 40 matches. The general effect of the tax would be to raise the numerical contents of the boxes, and if this change were in the ratio of 70 to 90, the revenue would have been still further reduced to about £540,000, and in the first year would have yielded even less. I question therefore whether in estimating the produce of the tax at £550,000, the Chancellor of the Exchequer took into proper notice the low contents of boxes now commonly used.

The reader will see, however, that the whole of these

calculations are of a very uncertain character. The reduction of consumption might possibly be greater than I have supposed; on the other hand there is an apparent impossibility in selling *full* boxes of matches of 100 each at 1d. after the imposition of the stamp, as I have pointed out (p. 225). If the public then refused to pay more than 1d. per box, the average contents would have to remain much as at present, and the revenue would be all the greater in consequence.

Again, it must really be an open question whether Mr. Lowe has been correctly informed as to the extent of the match trade. I do not find that any accurate information on the subject exists, and even manufacturers can only make rude guesses. I find that some who have as good means of knowing as any, consider his estimate a low one. From the statistics of the trade in lucifer matches with Australia I have drawn a similar conclusion, though the figures are not worth giving in detail. In Kopp's *Chemical Technology*, it is asserted that English people consume on an average eight matches per head per day, which would amount for the whole kingdom to about 900 millions of full boxes of 100 each. This statement is said to agree with statistics concerning the use of matches in Belgium, which are not in my possession. But there is inexplicable discrepancy between these statements and the returns of the Match Tax in the United States. The information I possess is clear and decisive only for one year, ending 30th June 1870, when the one cent tax yielded 1,945,400 dollars, representing a consumption of rather less than 200,000,000 boxes. This, it will be observed, is the consumption *under the tax*, and if the same rate of consumption held here, we could not expect a revenue of more than £400,000 at the most. If we wish to deal with certainties, I regard this as the best estimate, but the actual produce might have proved to be considerably more.

The amount, even at the lowest estimate, can hardly be called an inadequate or trifling addition to the revenue, being

half of the abandoned corn duty, the whole of the assessed tax on carriages, nearly as much as the railway duty, and equal to the aggregate of a great number of small license and stamp duties, some of which might before long be repealed with much advantage. In respect of its amount it can hardly be thought an unsuitable addition to our list of taxes.

I have now considered in sufficient detail all the technical and practical points at which difficulty, so far as I can see, could arise. I trust I have given full weight to the unpopularity of the tax, to its certain effect in reducing the trade, and its very doubtful effect upon the quality of the matches; but with these exceptions, I am really unable to discover any technical difficulties in its operation worthy of notice.

A paper having been circulated giving "Reasons against the Second Reading of the Match Tax Bill," I will, before concluding this part of my inquiry, give these objections literally, with brief answers.

"1. The proposed tax will be an impost varying from 100 to 500 per cent on the wholesale selling price."

Answer.—This is true, but the effect on the trade and consumption of matches will be measured by the change in the retail price, which will be generally 100 per cent.

"2. The tax will inevitably throw thousands of persons throughout the country, and particularly in the east end of London, out of honest employ."

Answer.—This is true, if by thousands we mean a *very few* thousands at the utmost.

"3. It will, therefore, greatly increase the poor-rates."

Answer.—It will *very slightly* increase the poor-rates for a short time.

"4. The principle of the tax is too important to be determined on three days' notice, and without giving those whose daily bread is dependent on an employment which the tax would destroy an opportunity of petitioning."

Answer.—Financial changes of the kind must be made with some degree of suddenness to avoid evasion of the tax and unfair gains. Even during the discussion of the subject the manufacturers' and dealers' stocks were cleared out, and matches which had been lying by for years were got rid of.

"5. The tax will prevent the manufacture of the better and safer kinds of matches now made in England. The million, to whom farthings are of importance, will not pay a price sufficient, if the tax be added, to enable the trade to sell any but the very commonest kind of matches."

Answer.—This is a matter in which doubt exists, but I have given my reasons for believing that the very poorest kinds of matches would be extinguished by the tax and moderately good penny boxes would be the rule.

"6. This will tend to increase the sale of the commonest and most dangerous sorts, which are mostly made abroad."

"7. A large proportion of the manufacture will be driven from this country and thrown into foreign hands."

Answer.—These appear to me mere *ad captandum* statements for which there can be no foundation in facts, unless either the manufacturers are deficient in sense, energy, and ingenuity, or our country is in some way less fitted than foreign countries for the production of matches, in which case free trade would naturally lead to the partial abandonment of the manufacture here. I see no reason to anticipate this result.

"8. The tax will fall most heavily on the lowest classes, because, from their greatest numbers, they are the greatest consumers."

Answer.—I need hardly point out that the words *most heavily* are here used in an ambiguous sense; of course the more numerous classes will contribute the larger part of the tax; but I shall show that in proportion to the revenue raised the burden inflicted on the poor would not be more than from one-sixth to one-third part of that produced by the almost nominal corn duty.

"9. The tax is unfair to manufacturers who have already got contracts on hand at prices which cannot possibly enable them to pay the tax."

Answer.—It cannot be supposed that any contracts would have obliged the manufacturers to pay the tax out of their own pockets. To avoid all doubt or difficulty I think a clause might have been inserted in the Act of Parliament annulling all such contracts on the day when the stamp was imposed.

"10. The tax affects prejudicially the following important industries: match makers, match-box makers (all poor people), timber merchants, taper makers, chemical manufacturers, and tin-plate workers."

Answer.—True; but except upon the match and match-box makers, and perhaps half a dozen makers of phosphorus, the effect would be inconsiderable.

Fundamental Objections to the Tax

Having found that the Match Tax is capable of being worked without fraud or considerable practical inconvenience, we must now inquire whether it is economically justifiable. We meet at once the important objection that lucifer matches are *necessaries of life*, and an economist of such great eminence and authority as Adam Smith has asserted that the necessaries of life should be untaxed. I acknowledge of course that a moderate use of matches is indispensable, though not the profuse and dangerous use often made of them at present. If the *dictum* of Adam Smith is to be obeyed the tax must undoubtedly be rejected.

Now I would remark that the great majority of those who decried the Match Tax allowed that the revenue had to be raised, and they urged that it ought to have been raised by an addition to the tea or sugar duties, or even a re-imposition of the shilling corn duty. But surely corn, tea, and even sugar are more

necessary and useful articles than the *greater part* of the matches used. Hardly any one will call tea and sugar luxuries in the present day; they are some of the commonest elements of food with which no one can fairly be expected to dispense. The evident inconsistency of such objectors, therefore, puts them out of court.

But if we are to accept this dictum concerning the taxation of necessaries, we must go farther and wholly exempt from taxation those who enjoy only the necessaries of life. It matters not to a poor cottager whether he pays ten shillings a year in the increased price of bread, or in poor-rates, or in any other mode. If he is obliged to pay the money, he has so much less to maintain his family. Logical consistency therefore would lead us to assign an amount of income below which taxation shall not descend. But the moment we attempt to fix such a limit, immense practical difficulties begin to present themselves. What are, in the first place, the necessaries of life? Are they potatoes and buttermilk; or oatmeal and bacon; or beef and bread and butter? As long as there are people to be found who maintain health and strength on nothing but simple potatoes and buttermilk, I do not see that anything more can be called absolutely requisite. But a great majority of English labourers would refuse to go without bread, and many would regard some kind of meat as indispensable. Nay, a very large number would consider a glass of beer as absolutely essential. They would be found to prefer cutting down their food rather than wholly abstain from stimulants. Now I conceive that the question as to what is essential can only be settled, if at all, by the will of the great majority. If a statesman lays a tax upon an article on the ground that poor people need not consume it, but if it is found that with few exceptions they *do* consume it, the effect is practically the same as if he knowingly and avowedly taxed necessaries.

Again, it is certain that the cost of the necessaries of life, whatever they may be, varies greatly between different places,

especially between town and country. Houses are, I suppose, necessary, and, including house rent, the expenses of living are probably at least 50 per cent higher in many towns than in the country. It is not long since we heard that large bodies of artisans in London declared they would not and could not maintain their families and themselves for less than 7s. 6d. *per day*, whereas there are many agricultural labourers who earn little more than that *per week*. But this difficulty of assigning the point at which necessity is felt leads me to question the whole truth of the doctrine. Economists have supposed that there must be some amount of wages which is the least that a working man can live upon and rear a family so as to maintain the supply of labour. If we tax a man receiving only just such wages, then he must either have his wages raised by an equal amount or he and his offspring must cease to be. But if the number of labourers decreases, employers will ultimately have to pay higher wages; accordingly a tax upon the necessaries of life always falls, according to these economists, upon the employers of labour, and through them upon consumers generally. In short, those who live at or close to the margin of famine *must be exempted*. It is on the ground that the labouring classes *cannot be taxed* that Adam Smith advocated the exemption of necessaries from taxation, and not on the ground of humanity or any other consideration. But the subject is altogether a debatable one. Ricardo, in his *Principles of Political Economy and Taxation*, controverts most of what Adam Smith said upon the subject, and distinctly states that "his whole argument is founded in error;"[1] but I cannot clearly gather from the chapter concerning "taxes on wages" whether Ricardo condemns the taxation of necessaries or not. Mr. Mill says: "Taxes on necessaries must thus have one of two effects—either they lower the condition of the labouring classes, or they exact from the owners of capital, in addition to the amount due to the state on their own necessaries, the amount due on those consumed by

[1] *Principles*, etc., 3rd ed., 1821, p. 272.

the labourers. In the last case, the tax on necessaries, like a tax on wages, is equivalent to a peculiar tax on profits, which is, like all other partial taxation, unjust, and is especially prejudicial to the increase of the national wealth." This statement indeed is in part self-evidently true; for if the taxes are not paid by labourers they must be paid by somebody else.

Economists have brought themselves, as it seems to me, into a very puzzling dilemma. The great object they wish to avoid is the partial taxation of capitalists, for by hindering the accumulation of capital this would decrease employment and lead to injury throughout the whole of society. If at the present day we draw, for instance, ten millions from the labouring classes, this is disadvantageous, if it must really be paid by capitalists indirectly. But surely if we repeal the taxes yielding this ten millions and substitute other taxes—for instance the income tax—we clearly impose a new direct pressure upon the class of capitalists, and in a roundabout way commit the very same injury to the working classes which we were seeking to avoid. A close examination will show that the argument involves a vicious circle, and the only way out of it is to allow that the working classes may, and in fact must, bear their portion of the national burdens. Paupers of course must be excepted, for they have the privilege of taxing other people; but all who earn honest wages must depend for those wages upon the general prosperity of the country and the abundance of capital. They cannot really be exempted, and the only question is whether the pressure shall be laid upon them in a more direct and economical manner or in a less direct and less injurious manner.

Observe that, even if we were to grant the theoretical validity of the dictum concerning the taxation of necessaries, we should meet a serious practical difficulty. We cannot remit indirect taxes upon the very poor without remitting them also upon those artisans who are not very poor, and to whom the dictum does not apply. Of every million of taxation upon necessaries which we remit, only a portion falls upon the very

poor, and if we have to substitute an income tax, probably a much larger portion falls upon the profits of capitalists, and diminishes the sources of employment, the very evil which economists aimed at avoiding. When any person shall have shown demonstrably how we can tax all persons, for instance, whose incomes exceed 18s. or 20s. a week, while leaving untouched those with less incomes, it will be time enough to consider whether we ought to exempt the very poor, although my own opinion is to the effect that we ought not.

The more carefully and maturely I ponder over the problem of taxation from various points of view, the more convinced I always return to the principle, that all classes of persons above the rank of actual paupers, should contribute to the state in the proportion of their incomes. I will not say that this is a theoretically perfect rule. From feelings of humanity we might desire to graduate the rate of contribution and relieve persons who are comparatively poorer at the expense of those who are comparatively richer. But we must beware of obeying the dictates of ill-considered humanity. If we once professedly enter upon the course of exempting the poor, there will be no stopping. We should hardly have completed our work before it would become apparent that we had miscalculated and brought upon the poor the very evil we wished to fend off. Let it ever be remembered that the vast machine of British industry depends for all its movements upon the profuse supply of capital. Other lands indefinitely surpass ours in extent and natural riches, but accumulated skill and capital, aided by the yet abundant stores of coal, enable us to take the leading position in most kinds of industry. But capital is a very liquid element, and escapes like water from any unequal pressure. Place an excessive burden on such capital, and you would find it oozing out and escaping in various subtle channels to more free and profitable employment in the colonies and distant countries. The poor would be the first to suffer, for their

employment in this closely-packed island depends almost entirely upon the capital of the rich.

I may seem in the preceding discussion to have overlooked the fact that a large part of our revenue is at present raised from alcoholic liquors and tobacco, which cannot be called necessaries. Almost the half of our national revenue proceeds from the customs and excise duties on spirits, wine, beer, and tobacco. As an expedient for repressing intemperance this arrangement is very good, but it rests upon no other principle; and I much question the wisdom of relying too exclusively upon so very narrow a basis of taxation. I fail to see any reason why a highly-paid artisan, because, from inclination or otherwise, he does not smoke or drink spirituous liquors, should pay little or nothing to the state. I see nothing immoral or prejudicial to the state in drinking a *strictly moderate* amount of beer per day. Comparing sugar and malt liquor, I should hesitate to say that in moderate quantities sugar is the more necessary. I perceive no principle at all according to which the moderate drinker pays so much more to the state than the abstainer, except, of course, that the moderate drinker is in the present state of things much too likely to become the immoderate drinker. It is the duty of Parliament, as I should conceive, inexorably to maintain the duties on spirits and tobacco, but I am not prepared to admit that they should make these the exclusive basis of an indirect taxation. Should all other duties be repealed it will be difficult to prevent the unreasoning impatience of taxation from falling upon the few remaining pillars of the revenue. Even our spirituous stronghold may not remain unassailed; and indeed have not many attempts already been made to undermine one of its necessary outworks —the malt tax?

I reject then for two distinct reasons the dictum that necessaries should not be taxed. I question the theoretical validity of the rule, and I am sure that, even if there were any real basis for the rule, it could not be safely and consistently carried out

with the means at present in our possession. In endeavouring to observe the rule we should probably incur in an aggravated form the very evil, the excessive taxation of profits, which the rule was framed to avoid. I must, therefore, hold that the Match Tax is not to be condemned on this ground. Nor am I aware that any other principle of sound finance is violated by it. It is certain that we ought not to lay a burden upon articles which can be considered materials of industry, or which enter in any appreciable degree into the costs of manufacture. We ought not to allow, still less to impose, a tax having any protective or distorting influence upon the industry of the country. It has not been asserted, however, that the Match Duty is defective in any such points. That duty is distinguished by falling in a very direct way upon household consumption, and for exerting no ulterior effect upon any kind of industry, except of course so far as on the one hand it disturbs the match trade, or on the other hand decreases the risks of fire. I pass on, therefore, to the third part of my inquiry.

Suitability of the Tax

I now enter upon the more general question whether the Match Tax is suited to form a part of our system of finance. Is it a tax needed not only to raise revenue, but to distribute the burden equally and fairly? As it is quite impossible to discover any single tax which shall fairly press upon every subject in proportion to his ability, our English system, like that of all other countries, employs a variety of imposts, so that those persons who escape one tax may fall under the pressure of others. We must strive to attain approximate equality, that is proportionality of taxation to expenditure, and I believe that at present, with the important exception of the taxes on intemperance, we are not far from it. At the last meeting of the British Association I gave a brief statement of the result of an inquiry which I made a little time since into the probable

pressure of taxation of the United Kingdom.[1] These results are not very far different from those obtained about the same time by Mr. Dudley Baxter in a similar inquiry. Some of the details of the calculations are given in an appendix to this pamphlet.

We may say that the taxes on tea, sugar, coffee, and fruit are paid by all classes, and form an appreciable burden of 1 per cent or more upon the poorer classes; they become proportionally less as we rise to richer classes. Taxes upon stimulants seem to be four or five times as heavy, even as regards a strictly temperate consumption. Owing to their being charged entirely according to weight or capacity they fall comparatively much more lightly on more wealthy persons. The inequality in the indirect taxes is redressed by the exemption from the income tax, and practically from many other taxes, enjoyed by labourers and artisans. But no sooner has a family acquired an income of about £200 a year than they incur about $3\frac{1}{3}$ per cent of direct taxes, which increase nearly proportionally to their income, however much they may acquire. The local taxes are also included in my estimate, and, being imposed by rate, are nearly proportional to expenditure, but somewhat more heavy on the poor. Some duties which are not noticed in my estimate either fall in an indirect manner equally, that is proportionally to expenditure on all classes, or else are confined to the rich. Could we estimate the effect of all taxes, we should probably find that on the average different classes of persons pay about 10 per cent of their income to the local or general government, *exclusive of the special burden of taxes upon intemperate persons.*

If we are to regard the duties upon spirituous liquors and tobacco in exactly the same light as other taxes, then the working classes undoubtedly pay more than their fair share. Even a temperate consumption costs them from 4 to 6 per cent in taxation alone, and a heavy drinker and smoker may readily pay as much as 20 or 25 per cent of his income to the public revenue. But I decline to regard such taxes on the same footing as other taxes.

[1] *Journal of the Statistical Society*, vol. xxxiii. pp. 317, 323.

They must be considered as one mode which the State adopts of repressing intemperance. The liquor traffic is one in which freedom is found by experience to lead to the worst results, and if by imposing heavy duties the consumption of alcohol can be reduced, the individuals who are taxed gain as well as the State which receives revenue. Besides, the intemperate impose upon the rest of the community, by the wasting of their possessions, the destruction of their health, or the commission of crime, a charge which is inadequately balanced by the taxes they pay.

I conclude then that artisans and labourers who are strictly temperate pay an equal percentage to the state with more wealthy persons; but there is this difference, that abstinence from alcoholic liquors and tobacco reduces their contributions by at least a half. An abstemious man below the limit of the income and other direct taxes, need not pay more than about 1 per cent of taxes to the State, through his consumption of tea and sugar, in addition to about $2\frac{1}{2}$ per cent, on the average, of local taxes. Now if we were to proceed with the removal of the remaining duties on tea, sugar, coffee, and fruit, we should leave the abstaining portion of the working classes wholly free from any State taxes except the trifling amount which they contribute through the Post Office net revenue, the indirect effect of some stamp duties, or the occasional payment of the dog or gun tax. I hold that it is not right to exempt any class from taxation. We must carefully guard against imposing upon the very poor any charge disproportionate to their income, and from those who are actually paupers we cannot really take anything. But if representation is to be coincident with taxation, then taxation must be coincident with representation. We may strive privately to alleviate the extreme differences between the incomes of the poor and the rich, but to allow any exemption from the duties and responsibilities of citizenship would be a concession ultimately fatal to the welfare of all.

The only ground on which I should like to see the tea, coffee, and sugar duties repealed, is that these articles are useful

counter-attractives to alcoholic drinks ; but we must first have some substitute for the revenue they produce. The extension downwards of the income and other direct taxes would be the proper measure were it practicable, but it is impossible to entertain the notion for a moment. The collection of such taxes would be in the highest degree costly and unpopular, and while a considerable portion of the working classes would readily evade them altogether, the remainder would pay them with feelings of pardonable indignation. I heartily agree therefore with the remark of *The Economist*, that "every proposal which makes the more numerous class of society, collectively a very wealthy class, pay any part of the taxation is in the present day most valuable." Now the Match Tax appears to me admirably fitted for this purpose. It falls upon a commodity the profuse use of which we desire to repress rather than to favour as in the case of tea. It must be paid more or less by every household in the kingdom, and will thus collect from the great mass of the population a slight equable contribution in some degree countervailing the exemption of those classes from more fixed and serious burdens. And it is an advantage in the tax that those who are really very poor may reduce their contributions to an almost inappreciable amount by an economical use of matches, which though possibly occasioning a little trouble will bring advantage rather than harm in other respects.

It has been remarked by many persons that the Government would have done much better to retain the small corn duty of 1s. per quarter, instead of proposing this new tax on matches. Such persons cannot have reflected at all upon the real character of their recommendation. That corn duty seemed a very slight one, and it was indeed no more on an average than 2 per cent on the price of wheat; but it was requisite to impose the same duty on the cheaper kinds of corn, oats, barley, and maize, on which the percentage of price would be considerably higher. Now one objection to the tax is that some of the imported corn was employed for the feeding of horses and

cattle, so that we were really enduring a tax upon a material of industry. A much more serious evil was that the rise of price occasioned by the tax was not confined to the corn actually imported, but was communicated more or less extensively to the corn raised within the kingdom. The corn duty, however low, was undoubtedly a *protective duty*, and though I should hardly agree with the financial reformers of Liverpool, that the duty occasioned a charge to the people four times as great as the revenue yielded, I certainly think that the charge must have been *at least twice as great*. Even on this head alone the objections to the corn duty were immensely greater than any which can be brought against the Match Duty. But the incidence of the corn tax was most unfair to the very poor.

Bread, unless it be replaced by potatoes, is the cheapest food available; it is therefore more largely consumed by the very poor—those families whose weekly earnings range from 10s. or 12s. to 20s. per week—than by those artisans who, with wages varying from 20s. to 60s. per week, can afford to buy more or less animal food, which is wholly untaxed. Now from the unimpeachable information given by Dr. Edward Smith, in a report to the Poor Law Board on the dietary of workhouses, I learn that a family of three and a half adults well fed with bread would consume 12 lbs. of bread-stuff per week per adult, or almost exactly 1 ton in the year. The duty was equivalent to 4½d. per cwt. of flour, so that without even allowing interest to merchants, dealers, and bakers, the charge on the family consuming foreign corn would be 88 pence, or 7s. 4d. per annum. With an income of 15s. per week, or say £40 a year, this tax would therefore be ·91 per cent; with a large family of young children the charge might be still greater. Now the grossly unfair point in the tax was that artisans' families enjoying probably twice the income, would actually eat less bread, owing to the use of butcher's meat, provisions, dairy produce, etc. An artisan's family of three and a half adults would not pay more than one-half per cent at the most. These calculations

proceed on the supposition that the flour is either imported or raised in price by the tax, as would be the case in the seaport and large manufacturing towns and many other parts of the country. The fact, if true, that it was not paid all over the country, scarcely redeems the tax in any degree.

Let us compare these effects with those which might have been anticipated from the Match Duty. On the average of the years 1863-69, the corn duty yielded almost exactly £800,000 a year. Let us assume for the sake of argument that the Match Duty would have given the same revenue. I calculated the corn duty on the assumption that a family consists of three and a half adults, that is, two adults and two children, or four persons altogether; but according to the English census the average size of a family is 4·47 persons, so that, for the whole population of the United Kingdom, we may calculate the number of families at about 6,900,000. Supposing, then, that all families, poor and rich, used matches with equal profusion, the average contribution of each family would be 2s. 4d. per annum. If the Match Tax yielded only £400,000 a year, then the average charge per family would be 1s. 2d. per annum. What I wish forcibly to point out is that, *proportionally to the revenue raised, the burden of the Match Duty upon the very poor would be less than one-third of the burden of the corn duty.* This extraordinary difference is due partly to the protective character of the corn duty, and partly to the necessity under which the very poor suffer of consuming bread in large quantities. It is further to be noticed that under the pressure of poverty a family can economise in lucifer matches, but cannot properly economise in bread. Four and a half dozen boxes of matches a year are not necessary for the preservation of life; half that quantity might readily be made to serve all useful purposes, so that *the very poor need not have suffered under the Match Duty more than about a sixth part of what many of them endured under the old nominal corn duty.*

The shilling corn duty is one of which no one complained; the stamp duty on matches is one of which everybody complained; yet when we investigate the real character of these taxes, the economical advantages are so greatly on the side of the Match Tax, that I believe its substitution would have been justifiable at any time. Were the corn duty in existence now, it seems to me that the Chancellor of the Exchequer would have acted in accordance with the duties of his high office in proposing its abolition even at the cost of imposing the Match Duty in its place. But if we were to compare the sugar duty and the Match Duty a different result might be expected. Not only is the sugar duty an important one, on account of the large sum it yields, but in its incidence it is probably well suited to distribute taxation over the non-income-tax-paying classes. It is an article of food in which economy may readily be practised, so that the very poor may be sparing in its use, and the highly paid labourer may be more profuse. The consumption of sugar may thus be expected to vary in an opposite manner to that of corn. The adjustment of the sugar duties is indeed a question of great scientific complexity, and I have never been able to understand it. Men of much financial knowledge, like Mr. J. B. Smith, hold that that tax is in some degree obstructive to industry, and there was thus some extraneous motive for the reduction of the sugar duties. But this protective influence must be of such a minor importance that I should be strongly inclined to regret the loss of two millions and a half of sugar duty. Had the Chancellor of the Exchequer felt able and justified in retaining that revenue in his hands, he need never have felt the financial difficulties of the present year. I suppose that in the present day the pressure of the House of Commons for the remission of taxes whenever there is a surplus, is so great that the boldest Chancellor of the Exchequer cannot hope to hold a large straightforward surplus. But if such a fact be true, it is hardly creditable to the great financial reputation of the House of Commons. There are few members of that

House, I should believe, who would not act upon sounder principles in their own private finances.

I should be transgressing the limits of the subject which I proposed to myself in these pages were I to inquire whether there was any need at all for the Match Tax. I have attempted to investigate the character of that tax, but of course the final cause of a tax is the revenue it raises. People might reasonably object to being experimented on by the most skilful of tax inventors if the revenue were not needed. And there is, moreover, a *primâ facie* objection to all financial changes. In the course of time trade adjusts itself to unavoidable conditions, and a tax thus loses part of its disturbing and noxious powers. An old impost in some degree defective may be more tolerable than a new one which is theoretically better, but in its imposition disturbs the course of industry. The feeling that new taxes may be suddenly and unexpectedly imposed, produces some slight addition to the risks under which all investments of capital are made. If it can be avoided it is obviously undesirable that any one in reading the morning paper should find that a death-blow to his business had been given by the Chancellor of the Exchequer the previous evening. I believe we have arrived at that point of financial reform when a minimum of change is desirable. Could we have retained the old sugar duty undiminished we need never have heard of the Match Tax, and the moral with which I would finish is this: *Let us for the future allow the Chancellor of the Exchequer to hold a larger surplus on hand, the produce of which will properly go towards the reduction of the National Debt, and we shall then deprive him of any opportunity for imposing new taxes.*

Having candidly submitted to the reader all the information I have been able to obtain concerning the probable effects of the Match Duty, I have only now to offer for his consideration and judgment the following summary of the conclusions which I am inclined to adopt.

1. Judged according to the principles of political economy

and taxation, the proposed tax is free from any fundamental objection; it ought not to be rejected because it falls upon one of the necessaries of life.

2. It is remarkably free from technical difficulties, and would not be costly in collection.

3. It would undoubtedly create a great temporary disturbance in the match trade, and would for a time throw out of employment one-fourth or one-fifth of the persons engaged in the manufacture.

4. It is well fitted to draw a small contribution to the revenue from the very large part of the population who are exempted from direct taxes and have lately been relieved from many more injurious taxes.

5. Compared with the small corn duty lately remitted, it is found to be immensely superior in regard to its economic results and its incidence upon the very poor.

6. Nevertheless the Match Tax, as is now apparent, would probably be an unpopular one.

APPENDIX

(See p. 238)

ESTIMATES OF TAXATION

I HAVE framed three estimates, which I think worthy of some reliance, concerning families supposed to expend in the year £40, £85, and £500 respectively.

Each family is supposed to consist of man and wife, one child over ten years of age, and one under that age, this being the family which most nearly represents the average composition of the population. Their consumption is taken equal to that of $3\frac{1}{2}$ adults. The family expending £500 a year is supposed to include also 3 adult servants, making altogether $6\frac{1}{2}$ adults.

The consumption of necessaries in the families of the poorest class is taken from Dr. Edward Smith's Report to the Poor Law

Board on the Dietary of Workhouses (20th Annual Report of Poor Law Board, 1866), but as Dr. Smith has given no information concerning the earnings of the families, I have assumed them, after comparing information concerning the various rates, at 15s. a week.

In framing the estimate concerning an artisan's family, I have been assisted by information gathered from 43 families in Manchester, partly procured by minute personal inquiry, and partly through the aid of some large employers of labour.

I have met with no success in endeavouring to obtain direct information from more wealthy families, and their consumption of necessaries is assumed from somewhat narrow data. As, however, the whole of the taxes on necessaries paid by a family spending £500 a year or more is less than 1 per cent of the income, no great inaccuracy can have been committed, and many of the larger items, such as income tax, house tax, local rates, etc., can be estimated on very simple data.

In calculating the duty paid, I have considered it indispensable to make an allowance for the interest and profit which dealers will receive upon the amount of the tax. Great stress has been laid upon this element of the question in many writings, and I have endeavoured to be on the safe side by taking it at 20 per cent.

I have considered that licences required for the sale of tea, coffee, beer, wine, etc., are always paid for ultimately by the consumers of the articles, and I have calculated the effect by adding the licence duty to the customs or excise duty, and ascertaining the addition to the customs or excise duty which would have been equivalent to the licence duty. The rates of duty thus arrived at are as follows:—

Flour.—4½d. per cwt., with profit 5·4d., but as only half the corn consumed is supposed to be raised in price by the duty, the average effect of the duty is 2·7d., which is the rate employed.

Tea.—6d. per lb. Effect of licences, ·15d. per lb. Total 6·15d., with profit 7·4d. per lb.

Coffee.—4d. per lb. Licence included in tea, with profit 4·8d. per lb.

Sugar.—Average rate of duty 9s. 6d. per cwt., or just 1d. per lb., with profit 1·2d. per lb.

Fruits.—7s. per cwt. or ¾d. per lb., or with profit ·9d. per lb.

Beer.—The effect of the malt duty amounts to about ½d. per quart (Select Committee on the Malt Tax, 1868, query 3347). Effect of the licence duties $\frac{1}{20}$d. per quart. Total with profit ⅝d. per quart.

Wine.—Strong 2s. 6d. per gall. With licence 2s. 9d., with profit 3s. 3½d. per gall. Weak wine 1s., licence included in strong wine. With profit 13·2d. per gallon.

Spirits.—Duty, 10s. 2d. per gallon; effect of licences, 5d.; profit 2s. 2d.; total 12s. 9d. per gallon.

Tobacco.—Average duty as imported, 3s. 4d. per lb.; effect of licences inconsiderable (= ½d. per lb.); with profit, 4s. per lb.

The income tax is calculated at 5d. in £1, the average of the four last years.

The rent is taken at one-eighth part of the income, and the rateable value at six-sevenths of the rent, that being the average proportion between rateable value and rental in England and Wales.

Family of 3½ adults expending 15s. weekly, or (say) £40 a year.

	Per adult per week.	Family in year.	Tax.	Per cent upon income.
Flour	12 lbs.	20 cwt.	£0 4 6	·56
Tea	½ oz.	5¾ lbs.	0 3 6	·44
Coffee	...	...	...	...
Sugar	½ lb.	91 lbs.	0 9 0	1·12
Fruit	...	...	...	...
			£0 17 0	2·1
Rent 2s. weekly, £5 : 4s. yearly. Rateable value 1s. 8½d. weekly, £4 : 9s. yearly, at 4s. 6d. in the pound rate			1 0 0	2·5
Beer, 1 quart per day, 365 quarts			1 0 4	2·5
Tobacco, 6 lbs.			1 4 0	3·0
Total distributed taxation			£4 1 4	10·1

Family of 3½ adults expending 33s. weekly, or (say) £85 a year.

	Per adult per week.	Family in year.	Tax.	Per cent upon income.	
Flour	10 lbs.	16¼ cwt.	£0 3 8	·22	
Tea	1 oz.	11½ lbs.	0 7 1	·41	
Coffee	1 oz.	11½ lbs.	0 4 6	·26	
Sugar	¾ lb.	137 lbs.	0 13 8	·80	
Fruits	...	10 lbs.	0 0 9	·05	
			£1 9 8		1·7
Rent 4s. weekly, £10 : 8s. yearly; rateable value 3s. 5d. weekly, £8 : 18 : 4 yearly, at 4s. 6d. in the pound			2 0 0		2·4
Beer, 1 quart per day, 365 quarts	£1 0 4			1·2	
Spirits, 2 gallons in year	1 5 6			1·5	
Tobacco, 6 lbs. in year	1 4 0			1·4	
Total stimulants			3 9 10		4·1
Total distributed taxation			£6 19 6		8·2

Family of 6½ adults expending £500 a year.

	Per adult per week.	Family in year.	Tax.	Per cent upon income.
Flour	7 lbs.	21 cwt.	£0 4 9	·05
Tea	2½ ozs.	52 lbs.	1 12 0	·32
Coffee	1¾ ozs.	26 lbs.	0 10 5	·10
Sugar	1 lb.	338 lbs.	1 13 9	·34
Fruits	...	26 lbs.	0 2 0	·02
			£4 2 11	·8
Rent £63 a year.				
Rateable value, £54 at 3s. 6d. in £1		£9 9 0		1·9
Income tax 5d. in £1		10 8 4		2·1
House duty, 9d. in £1		2 7 3		·5
Insurance, 1s. 6d. per £100 on £800		0 12 0		·1
			22 16 7	2·7
Legacy and probate duty on property of £100 a year, as assumed by Baxter			3 17 0	·8
Beer, tobacco, wine, and spirits, as assumed by Baxter, with 20 per cent profit added			9 0 0	1·8
Total distributed taxation			£39 16 6	8·0

As is afterwards explained, many of the stamp, licence, or assessed taxes are not included in the above statement, because they cannot be distributed without the free use of conjecture.

Summing up the above results we get the following table :—

Description of Tax.	Percentage of Income paid in Taxes by family expending in the year.		
	£40.	£85.	£500.
On necessaries	2·1	1·7	·8
Rates and tolls	2·5	2·4	1·9
Direct taxes	...	...	2·7
Legacy and probate duty	...	...	·8
On stimulants	5·5	4·1	1·8
Total distributed taxation	10·1	8·2	8·0

One fact which is very apparent in the foregoing table, is that about half of the taxation of the poorer families is yielded by the taxes on stimulants, and may therefore be avoided by those who are willing to abstain from their use, whereas the upper classes

could escape in this manner only a comparatively small part of their taxation.

It must be clearly understood that the preceding numbers are not intended to represent the whole pressure of taxation. No notice is taken of the self-imposed taxation of immoderate drinkers and smokers, because the taxes on spirits and tobacco are maintained and defended on the ground of their beneficial action in checking intemperance. Nearly ten millions of the revenue is probably contributed in this manner, and is unrepresented in my estimate.

Nearly ten millions more of the revenue is unrepresented either because it is not the produce of taxes, or because its effect upon incomes cannot be calculated.

The following statement shows the amount of these portions of revenue :—

Undistributed Revenue.

Crown lands	£345,000	
Miscellaneous receipts . . .	2,586,000	
Not raised by taxation .	...	£2,931,000
Minor customs duties . . .	581,000	
Miscellaneous custom receipts .	105,000	
Part of licence duties . . .	1,007,000	
Part of stamps	3,208,000	
Post-Office, net revenue . .	1,421,000	6,322,000
Total	...	£9,253,000

The undistributed portions of the customs, licence, and stamps and the Post-Office revenue, fall to a great extent as a charge on industry, and are thus spread in a very equal manner over the whole population. The remainder falls mainly upon the upper classes in the form of postage, receipt, and other stamps, charges on the conveyance of property, etc.

If we accept Mr. Baxter's estimate of the income of the country (815 millions in 1867), the proportion of imperial and local revenue to income would be about 11 per cent, the amount raised being in the year ending 31st March 1868 as follows :—

Imperial revenue	£69,600,000
Local taxation, about	24,000,000
	93,600,000
Excluding Crown lands revenue and miscellaneous receipts	2,900,000
Total raised by taxation . .	£90,700,000

But if we allow a profit of 20 per cent to dealers in taxed articles, as I have invariably done, there is an increased pressure on the taxpayer of 8½ millions, which brings the whole amount up to about 100 millions, and the percentage to about 12 per cent.

If in the above estimates we make allowance for recent modifications of the tariff, namely, the final removal of the corn duty, and the reduction to one-half of the sugar duty, we shall arrive at the following statement of the present incidence of those taxes of which the effects can be calculated:—

	Family spending per annum—		
	£40.	£85.	£500.
	Per cent.	Per cent.	Per cent.
Taxes on necessaries—tea, sugar, coffee, fruit	1·0	1·1	0·6
Local taxes	2·5	2·4	1·9
Income tax, house and legacy duty	...	...	3·4
Stimulants—beer, spirits, wine, tobacco	5·5	4·1	1·8
Total per cent of income	9·0	7·6	7·7

ON THE PRESSURE OF TAXATION

(See Preface, p. xiv.).

ON THE PRESSURE OF TAXATION

THE conclusions concerning the pressure of existing taxes, which I feel able to draw after much investigation of the details of the subject, are of a somewhat negative character.

Taking equal taxation to mean that which is proportional to income, I venture to affirm that—

1. The available information sufficiently proves that no great inequality of taxation exists.

2. The data are not accurate enough to give a sure estimate of the whole pressure on any class of the people, and are therefore unfitted to form the ground of any important change in our fiscal system.

My own calculations have been made by comparing the expenditure of families supposed to spend respectively £40, £85, and £500 a year, the last family being taken to represent the Income-Tax-paying classes. Full details concerning these calculations are given in the Appendix,[1] and they were made for the most part independently of similar estimates recently communicated by Mr. Dudley Baxter, M.A., to the Statistical Society in a very able paper, but I have occasionally derived aid from Mr. Baxter's prior inquiries, and I shall venture in some points to criticise his results.

I have classified the several kinds of taxes differently from Mr. Baxter, but in a manner which seemed appropriate to the special purposes of this inquiry, commencing with those taxes on necessaries which all persons pay, and which can be estimated

[1] [Afterwards reprinted as an Appendix to the *Match Tax* (see above, pp. 245-250.—ED.).

with considerable certainty, and proceeding, last of all, to those taxes on luxuries, such as spirituous liquors, or tobacco, which are self-imposed and variable in amount, so that they must be treated by the aid of hypothesis and conjecture rather than of exact calculation.

The following is the statement which I am led to adopt of the pressure of various taxes uniformly expressed in percentages of income.

Taxes on Necessaries.	Family expending yearly £40.	£85.	£500.
	Per cent.	Per cent.	Per cent.
Flour	·56	·22	·05
Tea	·44	·41	·32
Coffee	...	·26	·10
Sugar	1·12	·80	·34
Fruits	...	·05	·02
Totals	2·12	1·74	·83
Direct Taxes.			
Local rates and tolls	2·5	2·4	1·9
Income tax	...	...	2·1
House duty	...	...	·5
Insurance duty	...	...	·1
Legacy and probate duty	...	...	·8
Totals	2·5	2·4	5·4
Taxes on Luxuries.			
Beer	2·5	1·2	·4
Spirits	...	1·5	·4
Wine	...	...	·5
Tobacco	3·0	1·4	·5
Totals	5·5	4·1	1·8

As is afterwards explained, many of the stamp licence or assessed taxes are not included in the above statement because they cannot be distributed without the free use of conjecture. I should apprehend that they create an additional pressure of at least one per cent on the upper classes more than upon the poorer classes.

Summarising the above results we get the following table, to which I have added corresponding results deduced from Mr. Baxter's estimate of the taxes paid by a family expending £10,000 a year :—

Description of Tax.	Percentage of Income paid in Taxes by family expending in the year			
	£40.	£85.	£500.	£10,000 (Baxter).
On necessaries . .	2·1	1·7	·8	·1
Rates and tolls . .	2·5	2·4	1·9	1·6
Direct taxes . . .	...	...	2·7	3·7
Legacy and probate duty .	...	...	·8	2·7
On stimulants . .	5·5	4·1	1·8	·5
	10·1	8·2	8·0	8·6
Other taxes (say) . .	...	...	1·0	1·0
	10·1	8·2	9·0	9·6

One fact which is very apparent in the above table is that about half of the taxation of the poorer families is yielded by the taxes on stimulants, and may therefore be avoided by those who are willing to abstain from their use, whereas the upper classes could escape in this manner only a comparatively small part of their taxation.

It must be clearly understood that the preceding numbers are not intended to represent the whole pressure of taxation. No notice is taken of the self-imposed taxation of immoderate drinkers and smokers, because the taxes on spirits and tobacco are maintained and defended on the ground of their beneficial action in checking intemperance. About ten millions of the revenue (according to Mr. Baxter) is probably contributed in this manner, and is unrepresented in my estimate.

Nearly ten millions more of the revenue is unrepresented except so far as provided for by the conjectural addition of one per cent, either because it is not the produce of taxes, or because its effect upon incomes cannot be calculated.

The following statement shows the amount of these portions of revenue :—

Undistributed Revenue.

Crown lands	£345,000	
Miscellaneous receipts	2,586,000	
Not raised by taxation	...	£2,931,000
Minor customs duties	581,000	
Miscellaneous customs receipts	105,000	
Part of licence duties	1,007,000	
Part of stamps	3,208,000	
Post-office, net revenue	1,421,000	
		6,322,00
Total		£9,253,000

The undistributed portions of the customs, licence, and stamps, and the post-office revenue, fall to a great extent as a charge on industry, and are thus spread in a very equal manner over the whole population. The remainder falls mainly upon the upper classes in the form of postage, receipt, and other stamps, charges on the conveyance of property, and is vaguely allowed for by the addition of 1 per cent.

It is obvious, also, that only such part of the poor rates and local taxes is included in Mr. Baxter's or my estimates as falls on house property, and *it is difficult to see how to provide for such part as falls upon land and property employed in industry.*

If we accept Mr. Baxter's estimate of the income of the country (£814,000,000), the proportion of imperial and local taxes to income would be about 11 per cent, the amount raised being in the year ending 31st March 1868 as follows:—

Imperial revenue	£69,600,000
Local taxation, about	24,000,000
	£93,600,000
Excluding Crown lands revenue and miscellaneous receipts	2,900,000
Total raised by taxation	£90,700,000

But if we allow a profit of 20 per cent to dealers in taxed articles, as I have invariably done, there is an increased pressure

on the taxpayer of eight and a half millions, which brings the whole amount up to about one hundred millions, and the percentage to about twelve per cent.

The tables will enable us to trace in a somewhat certain manner the variation of taxation as we pass from a low to a high income.

A very poor family pay about four and a half per cent of their income upon necessaries and rates (unless the latter be excused), and should they abstain from the use of stimulants, this is their whole contribution. But even a moderate amount of beer and tobacco more than doubles their contribution; and though the actual taxation paid will depend greatly upon their habits, it must be allowed perhaps that there is some slight disproportion in the taxation of the very poorest. We must remember too that these calculations refer to a family containing only two children. Should there be five or six children, or more, the consumption of necessaries might be so increased as to add two per cent to the taxation. But then it is probable that either the children would increase the income by their earnings, or the father would be obliged to abstain from stimulants.

As we rise from the class of labourers to that of artisans and the higher-paid operatives, the pressure of taxation appreciably decreases, since the expenditure on taxed articles need not increase in so high a proportion as the income, and no new tax is incurred until the income passes £100 a year, and becomes subject to income tax. At first this burden, at 5d. in the £1, is less than 1 per cent (*i.e.* 8/10 or ·83 per cent) owing to the exemption of £60, but as the income rises the burden increases in gradation, until at £200 the exemption ceases, and the whole tax of about 2 per cent is thenceforward paid.

In the meantime, somewhere between £150 and £200 the income probably becomes liable to house duty, amounting to about ½ per cent.

As the income still increases the taxes on necessaries and

stimulants progressively diminish in importance, and it is only by incurring a variety of additional taxes, whether assessed taxes, stamps, or legacy duty, that the proportion is kept up to a fair amount. When we reach wealthy families, such as those of landowners, it is only the charges upon the transmission of property (and I should be inclined to add to Mr. Baxter's estimate the local charges upon land) which maintain the pressure at an adequate amount. And I must say, though I have no data for presenting exact calculations on the subject, that a very wealthy family deriving their income from trade alone, probably escape more lightly even than the highly-paid artisan.

But I must now point out the high degree of uncertainty which attaches to many figures both in Mr. Baxter's estimate and my own. In my tables the very poor family appears to pay slightly more than others. Mr. Baxter has not examined this case, but arrives at the following final results :—

Family expending yearly	£10,000	pays	9½	per cent in taxes.			
„	„	„	500	„	10¼	„	„
„	„	„	70	„	7	„	„

I agree with him in thinking that the superior operative probably pays less taxes proportionally to an income of £70 or £85 than others above and below him, but I think the amount assigned to the middle-class family above is probably excessive and certainly conjectural. In fact I find that Mr. Baxter has imposed upon the income of £500 a payment for tolls of £5 or just 1 per cent, while he exempts the poorer family from tolls altogether. This single item gives a margin of error of 1 per cent at least in comparing the above numbers. As a large part of tolls must be paid indirectly through the costs of industry, I have preferred to include them with the local rates and distribute them proportionally to the rates over all classes.

But the large amount of local taxation can only be distributed in a manner partially conjectural. The average

poundage on rateable property is in England 3s. 10¾d., and in Ireland 3s. 11¼d.; and we may assume the average of the whole kingdom to be 4s.; but the rates are of course exceedingly variable in different districts, and on the average, press more upon the districts where the poorer classes live than those in which the richer reside. In the absence of any exact information I have followed Mr. Baxter's example, and taken the rate by conjecture at 4s. 6d. in the case of the poorer families, and 3s. 6d. in that of the £500 family. The rents paid by families in different ranks of life are also assumed to be one-eighth part of the income, a proportion which seems to agree closely with general experience, but is yet somewhat conjectural.

The amount of beer consumed at home and in moderation by the poorer families is taken by me at one quart per day, on the ground of various information (Select Committee on Malt Tax, 1865, query 4803); and 6 lbs. of tobacco in the year is taken on general information as a moderate consumption for a smoker. But I have absolutely no means of estimating how much more a family at £85 a year would spend in these articles than one at £40, so that I am obliged to take them equally in each case, except that I allow a certain moderate amount of spirits to the artisan which the poor labourer could hardly be supposed able to buy. But the whole of the estimates in regard to these articles must be treated hypothetically, since average statements of the amounts consumed, even if they could be obtained in the case of separate classes of people, would not indicate that moderate consumption which alone we can take into account.

The only taxes, I believe, which can be estimated with approximate certainty are the *income tax* and the *duties upon necessaries*. As I have taken considerable trouble in collecting and comparing information concerning the consumption of food, I feel safe in saying that the estimates of the taxes on necessaries could not be erroneous in any degree that could affect the validity of arguments founded upon them. The amount of

profit upon duty paid which dealers will charge to the consumer is somewhat a matter of opinion, and I have taken it at 20 per cent (Mr. Baxter having omitted it altogether); but it will affect each class nearly in the same proportion to the amount of duty.

I must point out a further fundamental difficulty which I have felt strongly in investigating this subject, namely, that the rates of wages and of profits, the value of property, and in general the relations and interests of all classes have adjusted themselves more or less perfectly to the existing system, so that we cannot be sure that any class which seems to pay a given tax actually bears the whole of its burden. Thus it is one of the most favourite doctrines of political economists that taxes on the necessaries of life fall not upon the very poor, but upon their employers in the form of an increased rate of wages. Though I should hesitate to assert the doctrine in its full extent, it is evident that the tendency must be in that direction.

Again, a large part of existing property has been acquired by its present owners under definite expectations as regards the burdens which were upon it in the shape of land tax, tithe charges, poor and local rates, etc., and it cannot therefore be said that the present owners suffer from such burdens. They would, of course, be benefited by their remission, just as any one is benefited by a gratuitous present.

Considerations of this kind seem to show that the determination of the real incidence of taxation passes altogether beyond the powers of our present science and our present resources of statistical information. We easily discover the apparent incidence, but we know not how far by complicated action and reaction its influence may be spread.

One strong assertion I can make, which is that *no one can possibly prove the existence of any gross inequality of taxation in our present system.* After framing estimates on various information and according to various hypotheses the results always seemed to gravitate around those which I have finally adopted.

The mean equality of these results (10·1, 8·2, 9·0, 9·6 (Baxter) per cent) may be partially due to accident, and that any of them may be effected by an error of 1 per cent is as likely as not, yet I believe that no one in the present day possesses that amount of information which would enable him to estimate and demonstrate the degree of inequality which may exist. In short, I mean that careful inquiry indicates equality within the limits of error to which the data and methods of reasoning are essentially liable.

I have seen statements to the effect that the poor labourers of this kingdom pay in taxes 20 or 25 per cent of their small wages. Whether this might have been the case in former years I have not inquired. That it might be the case with immoderate smokers or drinkers I do not doubt, for I am told that some smokers consume as much as 1 oz. of tobacco a day (the ordinary consumption being from 2 oz. to 4 oz. weekly), on which the duty would be £4 in the year, or $4\frac{3}{4}$ per cent upon an income of £85, and 10 per cent upon one of £40. It is quite likely, therefore, that those who both smoke and drink immoderately may pay 20 per cent or even more of their income to the state. But both Mr. Baxter and myself have included a moderate domestic consumption of stimulants in our estimates without producing any excessive results. Almost every one will admit that the heavy taxes upon stimulants are imposed upon different considerations from other taxes, and without any regard to equality of pressure as between persons of different habits, and if we agree, therefore, to throw out of consideration such part as is levied on intemperate consumption, there remains no trustworthy evidence of inequality between the classes to which my inquiry has been extended.

MANCHESTER, 13*th March* 1869.

APPENDIX

ON THE CORN DUTY, AND THE POST-HORSE LICENCE

I TAKE the liberty of drawing the attention of the Chancellor of the Exchequer to two particular taxes the effects of which have forced themselves upon my mind while considering the pressure of taxation.

I was until very lately under the impression, which most people share, that the duty of 1s. per quarter on corn was a wholly inappreciable burden.

But it appears certain from the inquiries of Dr. Edward Smith, the medical officer to the Poor Law Board (see 20th Annual Report of the Poor Law Board, 1867-8, p. 62) that very poor families consume 12 lbs. of breadstuffs per adult per week, or about 1 ton in a year for a family of $3\frac{1}{2}$ adults. The duty on 1 ton of flour would be (at $4\frac{1}{2}$d. per cwt.) 7s. 6d., or allowing 20 per cent profit to dealers, 9s. or $1\frac{1}{8}$ per cent on an income of £40 per annum. In the case of a large but very poor family the tax might even approach 2 per cent.[1]

This tax would not, however, be paid by labourers in all parts of the country. It is, I think, a great exaggeration of the Liverpool Financial Association to assert that the tax is felt throughout the whole kingdom, and occasions a burden four times as great or more than the amount of revenue raised.[2] Imported corn does not usually penetrate the great corn-growing counties, and the cost of railway carriage would act in prevention of free competition. But I have no doubt that in the northern counties, in the chief towns, and the neighbourhood of the great ports, the home-grown corn is raised in price by the amount of the duty equally with that imported. I made some inquiries to ascertain the extent to which such competition might exist between home-grown and foreign corn, but I was soon convinced that no exact decision would be possible, because the foreign corn penetrates the country more or less according to the state of the harvest, and a considerable intermixture of home and foreign corn is required on account of differences of quality. For the purposes of calculation I made the assumption that one-half of the corn consumed is raised in price by the duty,

[1] Mr. Baxter has strangely underestimated this tax in his paper as submitted to the London Statistical Society.

[2] *Trans. Social Science Association*, 1866, p. 654.

or that on the average the price of all the corn consumed is raised by half the amount of the duty.

There exist the following strong reasons why this duty would seem most suitable for repeal as soon as the state of revenue and expenditure admits of it.

1. The corn duty forms an appreciable burden of about one per cent of income upon the very poorest class who are on the borders of pauperism, and whose food consists almost wholly of breadstuffs, while to the other classes of society who consume more or less animal food, the tax is quite imperceptible.
2. It is a truly protective tax, and takes out of the pockets of the people considerably more than it yields to the state.
3. It acts injuriously in hindering the rise of a great international corn trade of which the main depôt would be at Liverpool.

The repeal of this duty would also reduce whatever appearance of unequal pressure upon the poorest class may appear in my tables.

Judging from current public opinion, it would seem that many persons suppose customs duties to be especially condemned by the principles of political economy and of free trade. But I apprehend there is no real ground for such a notion. All taxes act more or less in restraint of trade, and even the income tax by reducing a man's income makes him less able to purchase foreign produce. It was not because they were customs duties and created a certain pressure and reduction of consumption that many duties have been repealed, but because they were attended by secondary prejudicial results to industry. Now it often strongly occurs to me that there are various stamp and licence duties now existing which are attended by worse consequences in proportion to the revenue raised than can be conceived to be the case with any of the customs or excise duties unrepealed, excepting the duty on corn.

I would especially instance the licence duty on letting post-horses. When originally imposed in 1779 this was not altogether so inexpedient a tax, because it fell upon the ordinary mode of conveyance of all the upper classes. Now the use of post-horses or carriages is exceedingly lessened by the introduction of railways; but the very injurious effect arises that all poor persons are prevented from letting or hiring any common conveyances.

According to the present law no person going to or from market or along any road can legally convey another person for a money payment, nor can he let out any cart or gig without taking out a temporary or permanent licence, the cost of which is practically prohibitory to all but those who make a business of it. So irksome and needlessly restrictive is this law that it is often openly disregarded; it is still often evaded by making payment in some concealed form, and it leads to much gratuitous conveyance of friends,

neighbours, or even strangers. The excise officer accordingly finds frequent employment in detecting evasions of the law, and many vexatious prosecutions are the result. It seems quite needless that so much inconvenience should be occasioned for the sake of a revenue of £158,556 in 1866, but people are so accustomed to an old tax like this that they are almost unaware of the benefit which would arise from all conveyances being legally open to hire.

The licensing and proper regulation of hackney carriages in boroughs need not be interfered with by the repeal of this licence duty, but it would probably be necessary to repeal the stage carriage duty, raising £139,802 in 1866, of which even the Commissioners of Inland Revenue speak in no favourable terms (see Tenth Annual Report, pp. 13-14).

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